TROUBLESHOOTING

4. TROUBLESHOOTING

4.1 OVERVIEW

This section contains the troubleshooting procedures for the B064 Series, B140 Series, and B246 Series machines.

A full list of SC codes is given for each series. When you do troubleshooting on a machine, refer to the correct table:

- B064 Series SC Code Table: **Section 4.2**
- B140/B246/D052 Series SC Code Table: **Section 4.3**

Important:

The general information in this “Overview” section applies to the B064 Series, B140 Series, and B246 Series machines.

- “Other Problems (B064/B140/B246/D052 Series)” also applies to all the machines of these three Series.

4.1.1 RECOVERY METHODS

When an error occurs during downloading, an error code is displayed on the operation panel.

- If the download procedure can be re-started, re-start the download procedure.
- If the download procedure cannot be downloaded for other than the GW controller, replace the board where the downloaded program is stored.
- If the download procedure cannot be downloaded for the GW controller, set DIP SW 1 to ON. Power the machine off and on to start the downloading program. After downloading has completed, set the DIP SW to OFF then power the machine off and on again.

4.1.2 IMPORTANT SP CODES

SP5802	Free Run Mode	Execute this SP to force base engine to run in the free run mode for testing.
SP5803	Input Check	Displays the signals received from sensors and switches. Refer to the detailed tables in Section "5. Service Tables".
SP5804	Output Check	Switches electrical components one by one for testing. Refer to the detailed tables in Section "5. Service Tables".
SP5990	SMC Printout	Prints the SMC Report. Some SC codes (logged SPs) are shown only in the SMC Report and do not show on the operation panel display.
SP7801	ROM Version Display.	Displays the version number of the main machine and connected peripherals.
SP7832	Self-Diagnostic Result Display	Execute this SP to display a list of error codes. No errors have occurred if nothing is displayed.
SP7911 (B064) SP7801 (B140/B246)	Firmware Version	Displays the current numbers of all versions of the firmware in the system.
SP7990 (B064) SP7403 (B140/B246)	Status of Issued SC	Execute to display the following information about the most recently issued SC: 1) Source file name, 2) SC number, 3) Result

NOTE: For more information about these and other SP codes, see "4. Service Tables".

4.1.3 DOWNLOAD ERROR CODES

	Display	Details	Recovery
01	Reboot after card insert E01 ↕ Module ID Card No. xx/xx	Controller ROM update error 1 When the update break data is stored in NVRAM, the break module information and the decompression module capable of writing do not match.	• Use the correct card
02	Download Error E02 Power off/on	Controller ROM update error 2. Error occurs during ROM update program initialization.	• Cycle the machine off/on to rewrite
03	Download Error E03 Power off/on	Controller ROM update error 3 The ROM for the write operation does not exist.	• Cycle the machine off/on • Install the missing ROM DIMM
04	Download Error E04 Power off/on	Controller ROM update error 4 GZIP data confirmation fails. (CRC value check)	• Cycle the machine off/on • Set DIP SW 1 to ON and retry • Replace RAM DIMM • Replace controller board
05	Download Error E05 Power off/on	Controller ROM update error 5 Error occurs when writing to the device.	• Cycle the machine off/on • Set DIP SW 1 to ON and retry • Replace RAM DIMM • Replace controller board
06	Download Error E06 Power off/on	Controller ROM update error 6 CPU clock error.	• Turn the machine power off/on. • Set controller DIPSW-1 to ON to force the machine to write to ROM. • If you cannot force the machine to write, replace the controller board.
19	Download Error E19 Power off/on	Controller ROM update error 7 Schedule data is unclear.	• Software defective
20	Down Error E20 Power Off/On	System error 1 (+SC991) The physical address cannot be mapped. Software/hardware is defective	• Cycle the machine off/on and re-try • Replace controller board
21	Download Error E21 Power Off/On	System error 2 (+SC991) There is not sufficient memory to download.	• Cycle the machine off/on and re-try. • Replace RAM • Replace the controller board

	Display	Details	Recovery
22	Download Error E22 Module ID Card No xx/xx	System error 3 (+SC991) Data fails to decompress. Card defective.	• Cycle the machine off/on and re-try. • Replace card • Replace controller board
	SC991	System error 4 "Selfupdate" does not execute. Software defective.	• Cycle the machine off/on and re-try • Set DIP SW 1 to ON and re-try • Replace the controller board
23	Download Error E24 Power Off/On	System error 5 Card read/write error. Software or card defective.	• Cycle the machine off/on and re-try • Replace the card • Replace the controller board
30	No Valid Data E30	Download dysfunction 1 Print download is not possible. Cannot download to HDD because HDD not installed or defective.	• HDD defective • HDD harness disconnected, defective
31	Reboot After Card Insert E31 Module ID Card No. xx/xx	Download dysfunction 2 Download continuity error with more than one card. The second or later card is not compatible.	• Set the correct cards in the correct order
32	Reboot After Card Insert E32 Module ID Card No. xx/xx	Download dysfunction 3 Download interrupted because card is not correct, or power failure interrupted download.	• Use the correct card • If power failure caused the failure, remove the card and insert another.
33	No Valid Data E33	Download dysfunction 4 Card version error. Attempted to download program using a card with the wrong version number.	• Use the correct card
34	No Valid Data E34	Download dysfunction 5 Specification error. DOM card set in EXP machine, or vice versa.	• Use the correct card
35	No Valid Data E35	Download dysfunction 6 Wrong model. The inserted card is for another model.	• Use the correct card
36	No Valid Data E36	Download dysfunction 7 Module error. The program that you are attempting to download does not exist on the machine, or the contact points at the card and the machine slot are not connected.	• Use the correct card, inserted correctly • Install a ROM DIMM if none is installed
37	No Valid Data E37	Download dysfunction 8 Edit option card error. You attempted to employ a used card.	• Use an unused card
40	Download Error E40 Module ID Card No. xx/xx	Download result failure 1 Engine download failure.	• Cycle the machine off/on and re-try
41	Download Error E41 Module ID Card No. xx/xx	Download result failure 2 Fax download failure.	• Cycle the machine off/on and re-try

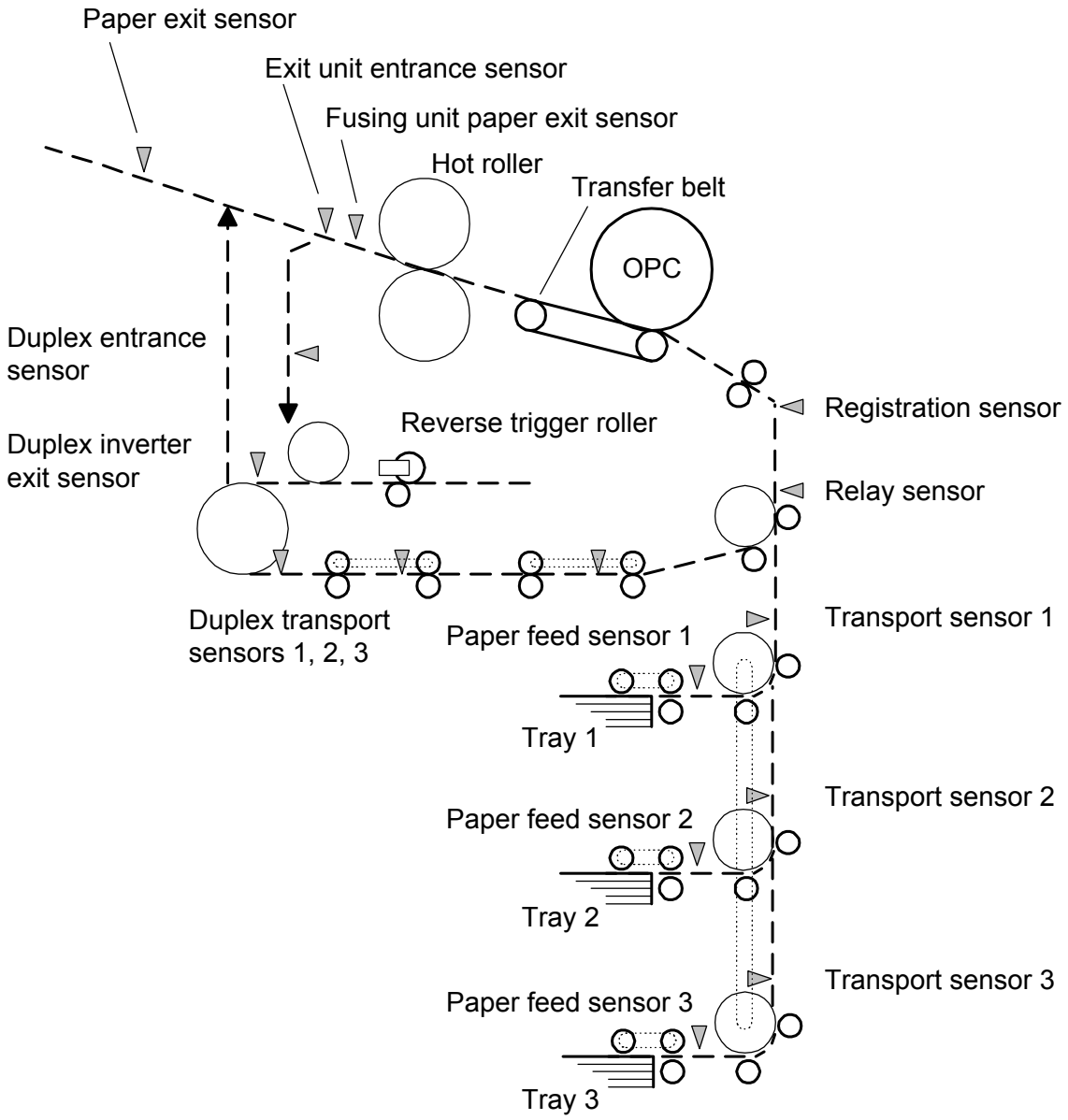
	Display	Details	Recovery
42	Download Error E42 Module ID Card No. xx/xx	Download result failure 3 Operation panel or language download failed. For this error, sometimes the message may not be displayed.	• Cycle the machine off/on and re-try
43	Download Error E43 Module ID Card No. xx/xx	Download result failure 4 Print download failed.	• Cycle the machine off/on and re-try
44	Download Error E44 Module ID Card No.	Download result failure 5 The data targeted for the write operation could not be accessed.	• Turn the machine power off/on. • Set controller DIPSW-1 to ON to force the machine to write • If you cannot force the machine to write, replace the controller board.
50	No Valid Data E50	Download invalid The source data for the update could not be authenticated.	• Use the correct SD card.
51	(no display)	Remote ROM update failure 1 The source data for the ROM update is corrupted because the machine is operating and an SC code has been issued.	• Turn the machine power off/on and try again.
52	(no display)	Remote ROM update failure 2 The source data received for the ROM update is corrupted; it failed a SUM check due to its abnormal length.	• Try again with the correct data.
53	(no display)	Download result failure 6 The previous download in progress was cancelled.	• Do the download procedure again.

4.1.4 JAM DETECTION

SENSOR LOCATIONS

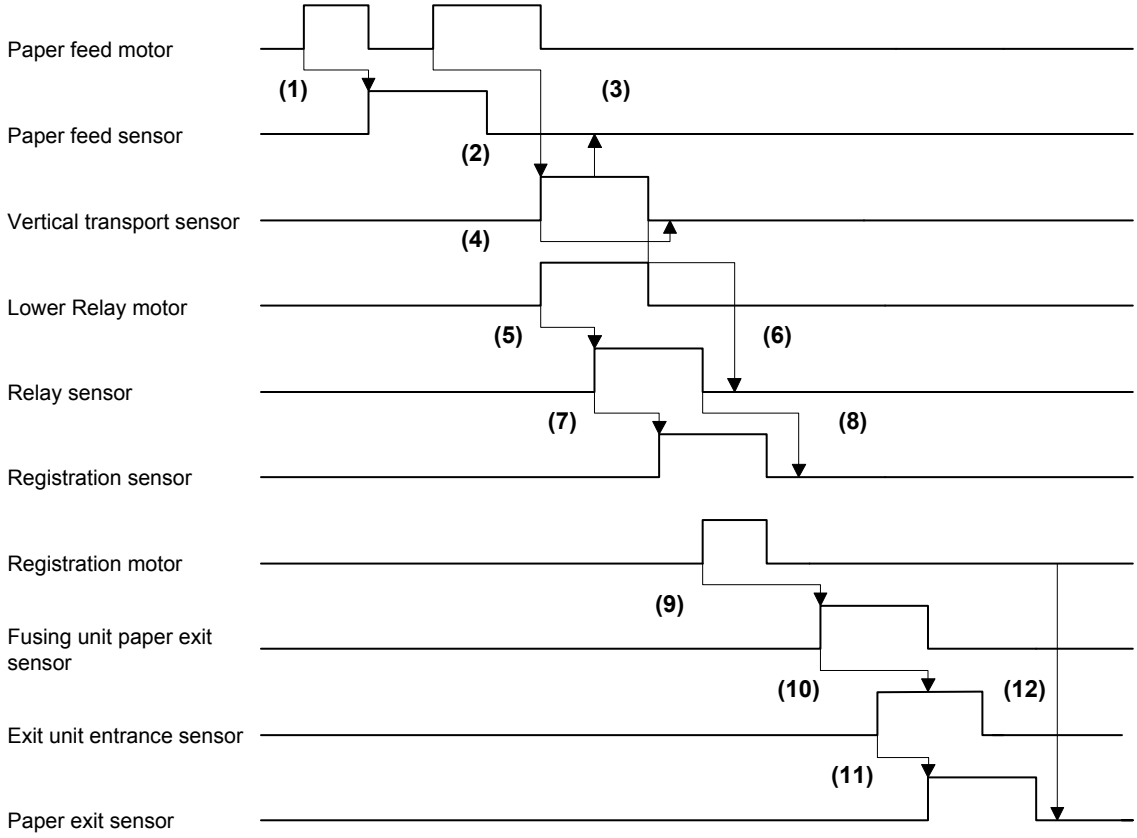
The flashing portion of the jam position display on the operation panel indicates the location of the paper jam, then lights if any paper remains after jam removal. However, paper may remain in the paper path at locations other than where the jam was removed.

The illustration below shows the locations of the jam sensors.



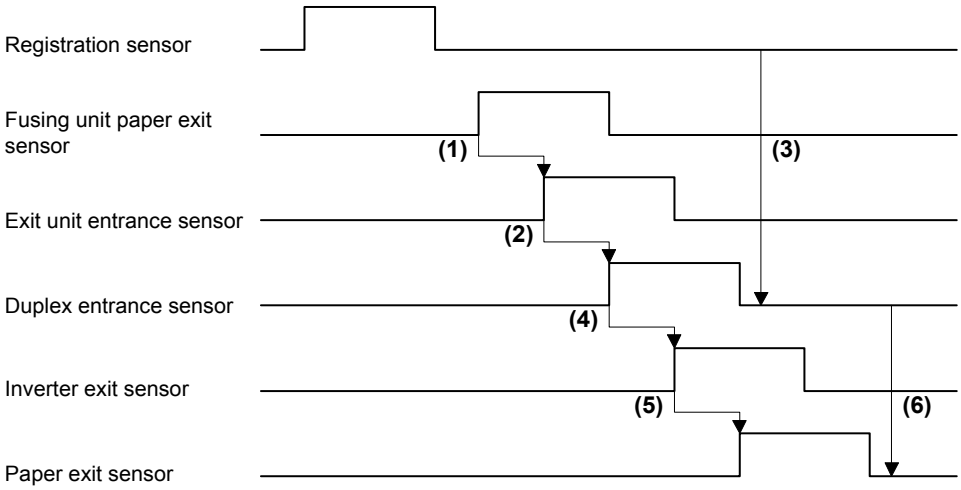
4.1.5 TIMING CHARTS

Feed, Transport, Feed Out: Face-up



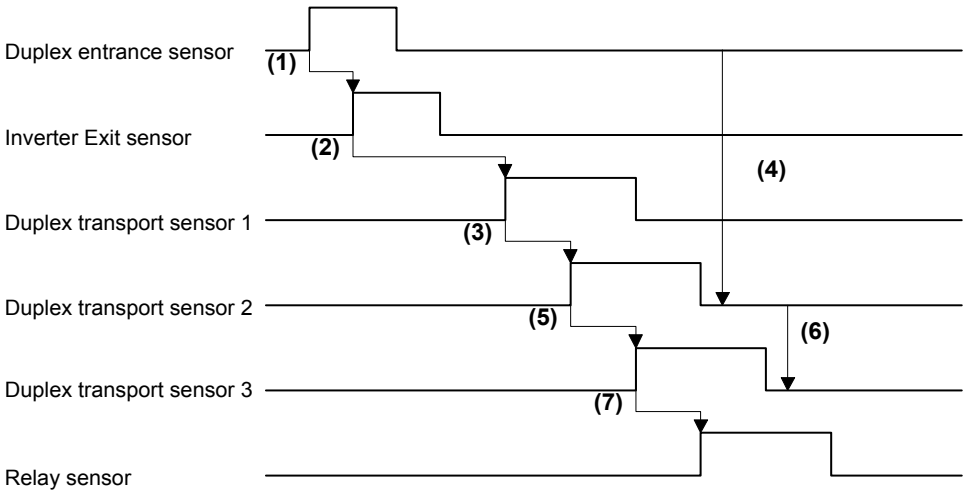
(1): Paper feed motor ON → Paper feed sensor does not switch ON at the correct time.
(2): Paper feed motor ON → Vertical transport sensor does not switch ON at the correct time.
(3): Vertical transport sensor ON → Paper feed sensor does not switch OFF at the correct time.
(4): Vertical transport sensor ON → Vertical transport sensor does not switch OFF at the correct time.
(5): Lower relay motor ON → Relay sensor does not switch ON at the correct time.
(6): Vertical transport sensor OFF → Relay sensor does not switch OFF at the correct time.
(7): Relay sensor ON → Registration sensor does not switch ON at the correct time.
(8): Relay sensor OFF → Registration sensor does not switch OFF at the correct time.
(9): Registration motor ON → Fusing unit paper exit sensor does not switch ON at the correct time.
(10): Fusing unit paper exit sensor ON → Exit unit entrance sensor does not switch ON at the correct time.
(11): Exit unit entrance sensor ON → Paper exit sensor does not switch ON at the correct time.
(12): Registration motor OFF → Paper exit sensor does not switch OFF at the correct time.

Transport, Inverter, Feed Out: Face-down



(1): From the registration sensor to the fusing unit exit, jam detection is the same as face-up feed out.
(2): Exit unit entrance sensor ON → Duplex entrance sensor does not switch OFF at the correct time.
(3): Registration sensor OFF → Duplex entrance sensor does not switch OFF at the correct time.
(4): Duplex entrance sensor ON → Inverter exit sensor does not switch OFF at the correct time.
(5): Inverter exit sensor ON → Paper exit sensor does not switch ON at the correct time.
(6): Duplex entrance sensor OFF → Paper exit sensor does not switch OFF at the correct time. (Paper remains at the duplex unit exit.)

Duplex Transport



(1): Duplex entrance sensor ON → Inverter exit sensor does not switch ON at the correct time.
(2): Inverter exit sensor ON → Duplex transport sensor 1 does not switch on at the correct time.
(3): Duplex transport sensor 1 ON → Duplex transport sensor 2 does not switch on at the correct time.
(4): Duplex entrance sensor ON → Duplex transport sensor 2 does not switch OFF at the correct time.
(5): Duplex transport sensor 2 ON → Duplex transport sensor 3 does not switch ON at the correct time.
(6): Duplex transport sensor 2 OFF → Duplex transport sensor 3 does not switch OFF at the correct time.
(7): Duplex transport sensor 3 ON → Relay sensor does not switch on at the correct time.

4.1.6 PROGRAM DOWNLOAD

Here are some important points to keep in mind when downloading software:

- If an error interrupts download processing, the machine cannot operate normally with the program software only partially downloaded.
- When download processing execution starts, “Downloading…” is displayed and when downloading has completed successfully, the message is cleared.
- If the download is interrupted when the “Downloading …” message is displayed, the machine does not attempt a re-try.
- The program that downloads firmware from an IC card is part of the GW controller software. If downloading this software is interrupted, the program stored in the machine may be corrupted. Because of this, it may not be possible to restart the downloading program. (In addition, if the GW controller software cannot be downloaded, other software on other IC cards cannot be downloaded.) However, it may be possible to restart the program without replacing the board by setting DIP SW 1 on the controller to ON, and re-starting.

4.2 B064 SERIES SERVICE MODE

4.2.1 B064 SERIES SERVICE CALL CONDITIONS

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	Fusing unit SCs displayed on the operation panel. The machine is disabled. The user cannot reset the SC.	Enter SP mode, then turn the main power switch off and on.
B	SCs that disable only the features that use the defective item. Although these SCs are not shown to the user under normal conditions, they are displayed on the operation panel only when the defective feature is selected.	Turn the main power switch off and on.
C	SCs that are not shown on the operation panel. They are internally logged.	Logging only
D	Turning the operation switch or main power switch off then on resets SCs Displayed on the operation panel. These are re-displayed if the error occurs again.	Turn the operation switch or main power switch off and on.

NOTE: 1) If the problem concerns electrical circuit boards, first disconnect then reconnect the connectors before replacing the PCBs.
2) If the problem concerns a motor lock, first check the mechanical load before replacing motors or sensors.
3) When a Level A or B SC occurs while in an SP mode, the display does not indicate the SC number. If this occurs, check the SC number after leaving the SP mode.

4.2.2 B064 SERIES SC CODE DESCRIPTIONS

SC100: Scanning System

SC No.		Symptom	Possible Cause
101	D	Exposure Lamp Error	
		At trigger on, the lamp was not detected on.	• Exposure lamp defective • Lamp regulator defective • Exposure lamp connector defective • Dirty standard white plate • Dirty scanner mirror or scanner mirror out of position • SBU board defective • SBU connector defective • IPU defective
120	D	Scanner home position error 1	
		The scanner HP sensor does not detect the on condition during initialization or copying.	• BCU, SDRB (Scanner Driver Board) defective. • Scanner motor defective • Harness between BCU, SDRB, scanner motor disconnected. • Scanner HP sensor defective. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, carriage installation incorrect.
121	D	Scanner home position error 2	
		The scanner HP sensor does not detect the off condition during initialization or copying.	• BCU, SDRB (Scanner Driver Board) defective. • Scanner motor defective. • Harness between BCU, SDRB, scanner motor disconnected. • Scanner HP sensor defective. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, carriage installation incorrect.
122	D	Scanner home position error 3	
		The scanner home position sensor does not detect the on condition during original scanning.	• BCU, SDRB (Scanner Driver Board) defective. • Scanner motor defective. • Harness between BCU, SDRB, scanner motor disconnected. • Scanner HP sensor defective. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, carriage installation incorrect.

SC No.		Symptom	Possible Cause
123	D	Scanner home position error 4	
		The scanner home position sensor does not detect the off condition during original scanning.	• BCU, SDRB (Scanner Driver Board) defective. • Scanner motor defective. • Harness between BCU, SDRB, scanner motor disconnected. • Scanner HP sensor defective. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, carriage installation incorrect.
143	D	SBU auto adjust error	
		Automatic adjustment of the SBU fails when the machine is switched on.	• Exposure lamp defective. • Exposure lamp regulator defective. • Harness between exposure lamp and lamp regulator is disconnected. • White plate installed incorrectly or is dirty. • Scanning mirrors of the exposure unit are dirty or out of position. • SBU board defective. • VIB board defective. • Harness between SBU, VIB disconnected. • Harness between VIB, BCU disconnected. • IPU defective • BCU defective
144	D	SBU transmission error	
		After the SBU switches on, the BCU detects one of the following conditions on the SBU: • 1 s after power on, the SYDI signal does not go high, even after 1 retry. • 1 s after power on, the SYDI signal goes high, but the SBU ID could not be read after 3 attempts.	• SBU defective. • VIB defective • Harness (40-pin shielded) between the SBU, VIB is disconnected. • Harness (shielded cable) between the VIB, BCU is disconnected. • IPU defective

SC No.		Symptom	Possible Cause
181	D	CIS lamp abnormal	
		After the CIS lamp trigger goes on, the CIS lamp is not detected on. Detecting the lamp on or off determines the peak white level value for shading correction. (If the peak level is determined to be below a certain level, the CIS lamp is judged to be off.)	• CIS lamp defective. • CIS power supply board defective. • Harness between lamp and power supply board is disconnected. • Harness between CIS, ADF is disconnected. • CIS exposure glass dirty. • White roller dirty or installed incorrectly. • CIS unit defective. • PSU defective
183	D	CIS auto adjust error	
		Automatic adjustment of the CIS unit failed.	• CIS unit defective. • CIS exposure glass dirty. • White roller dirty or installed incorrectly. • PSU power supply (+5V, –12V) is abnormal. • IPU defective
184	D	CIS transmission error	
		When the CIS is powered on, the ADF detects one of the following abnormal conditions on the CIS unit: • The SOUT signal does not go high within 1 s after power on. • The SOUT signal goes high within 1 s after power on, but the SBU ID cannot be read after 3 attempts.	• CIS unit defective. • Harness between the CIS, ADF is disconnected. • PSU power (5V) is abnormal. • BCU, IPU defective

SC300: Image Development System (1)

SC No.		Symptom	Possible Cause
300	D	Charge corona output error	
		The feedback voltage from the charge corona unit is detected too high 9 times.	• Charge corona power pack defective • Charge corona harness disconnected • Poor charge corona unit connection
303	D	Charge corona grid leak	
		When the high voltage is output to the corona grid, feedback voltage exceeds the prescribed value 9 times.	• Charge corona power pack defective • Charge corona harness disconnected • Poor charge corona unit connection
305	D	Charge corona wire cleaner error 1	
		The charge corona wire cleaner motor is detected: • Motor locks within 4 s after switching on, or does not lock within 30 s. • Motor locks within 10 s after reversing, or does not lock within 30 s.	• Charge corona wire cleaner motor defective • BCU board defective
306	D	Charge corona wire cleaner error 2	
		The current at the charge corona motor is detected less than 83 mA.	• Charge corona wire cleaner motor connector is defective or not connected.

When SC310~SC317 are logged, the machine halts without displaying the SC number. These SC codes log an abnormal condition at the potential sensor only when SP3901 (Auto Process Control) is set to on.

SC No.		Symptom	Possible Cause
310	C	Potential sensor calibration error 1	
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (–100V, –800V) are applied to the drum.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Development power pack defective
311	C	Potential sensor calibration error 2	
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (–100V, –800V) are applied to the drum.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Development power pack defective

SC No.		Symptom	Possible Cause
312	C	Potential sensor calibration error 3	
		During drum potential sensor calibration when adjusting the drum potential (VD), the drum potential sensor detects VD higher than VG (grid voltage). -or- When adjusting VD (drum surface potential of black areas after exposure), even after 5 adjustments of VG (charge corona grid potential), VD could not be set in the target range (–800±10 + VL + 130V)	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Development power pack defective • Charge corona unit worn out, dirty
314	C	Potential sensor calibration error 4	
		During drum potential sensor calibration when adjusting the drum potential (VH) for LD power adjustment, the first time the VH pattern is made, the drum potential sensor detects that VH is more than 500V: VH > |–500 + VL + 130| V	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • LD defective
315	C	Potential sensor calibration error 5	
		During drum potential sensor calibration, when –100V is applied to the drum, the output value is out of the prescribed range.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Development power pack defective
316	C	Potential sensor calibration error 6	
		During drum potential sensor calibration, when –800V is applied to the drum, the output value is out of the prescribed range.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Development power pack defective
317	C	Potential sensor calibration error 7	
		During drum potential sensor calibration, when VL is adjusted, the pattern surface potential VL pattern is not within range 0V ~ –400V. (VL is the potential after exposing a white pattern.)	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • BCU defective • OPC connector defective • Charge corona power pack defective • Development power pack defective
321	D	No laser writing signal (F-GATE) error 1	
		The laser writing signal (F-GATE) for the IPU does not go LOW within 60 s.	• IPU board defective • PCI bus between controller board, IPU board defective

SC No.		Symptom	Possible Cause
322	D	Laser synchronization detector error	
		After the polygon motor reaches standard rotation speed and the LD unit fires for 500 ms, the laser synchronization detector does not generate a signal.	• Harness between detector and I/F disconnected or damaged • Detector is installed incorrectly. • Detector board is defective • Controller board defective • IPU board defective • LDB defective
335	D	Polygonal mirror motor error 1	
		The ready signal does not go low within 20 s after the polygonal mirror motor turns on or changes speed of rotation.	• Harness between I/F and polygon motor disconnected or defective • Polygon motor or polygon motor driver defective • IPU board defective
336	D	Polygonal mirror motor error 2	
		The ready signal does not go high within 20 s after the polygonal mirror motor turns off.	• Harness between I/F and polygon motor disconnected or defective • Polygon motor or polygon motor driver defective • IPU board defective
337	D	Polygonal mirror motor error 3	
		The XSCRDY signal goes high while the polygonal mirror motor turns on, even though there was no demand for either turning off the motor or changing the motor speed.	• Harness between the polygon motor and I/F disconnected or defective. • Polygon motor or polygon motor driver defective • IPU board defective
338	D	Polygonal mirror motor error 1	
		During exposure, while the polygon motor is rotating, the XSCRDY signal goes high.	• Harness between the polygon motor and I/F disconnected or defective. • Polygon motor or polygon motor driver defective • IPU board defective
340	D	TD sensor output error	
		TD sensor output voltage (Vt), measured during each copy cycle, is detected 10 times at one of the following levels: Vt = 0.5 volts or lower Vt = 4.0 volts or higher	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • BCU defective • Toner bottle motor defective **Note:** When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.

SC No.		Symptom	Possible Cause
341	C	TD sensor adjustment error 1	
		During the TD sensor auto adjustment, the TD sensor output voltage (Vt) is 2.5 volts or higher even though the control voltage is set to the minimum value (PWM = 0) When this error occurs, SP2-906-1 reads 0.00V. Note: This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • BCU defective • Toner bottle motor defective **Note**: When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.
342	C	TD sensor adjustment error 2	
		During the TD sensor auto adjustment, the TD sensor output voltage (Vt) does not enter the target range (3.0 ± 0.1V) within 20 s. When this error occurs, the indication of SP2-906-1 reads 0.00V. **Note**: This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • BCU defective
345	D	Development output abnormal	
		The high voltage applied to the development unit is detected 10 times higher than the upper limit (45%) of PWM.	• Development power pack defective • Development bias connection defective • Development bias connector disconnected or defective
350	C	ID sensor error 1	
		One of the following ID sensor output voltages was detected twice consecutively when checking the ID sensor pattern. Vsp ≥ 2.5V Vsg < 2.5 Vsp = 0V Vsg = 0	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • BCU defective • Defect at ID sensor pattern writing • Charge power pack defective • ID sensor dirty
351	C	ID sensor error 2	
		The ID sensor output voltage is 5.0V and the PWM signal input to the ID sensor is 0 when checking the ID sensor pattern.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • BCU defective • Defect during ID sensor pattern writing • Charge power pack defective • ID sensor dirty

SC No.		Symptom	Possible Cause
352	C	ID sensor error 3	
		For 2 s during the ID sensor pattern check, the ID sensor pattern edge voltage is not 2.5V or the pattern edge is not detected within 800 ms.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • BCU defective • Defect during ID sensor pattern writing • Charge power pack defective • ID sensor dirty
353	C	ID sensor error 4	
		One of the following ID sensor output voltages is detected at ID sensor initialization. • Vsg < 4.0V when the maximum PWM input (255) is applied to the ID sensor. • Vsg ≥ 4.0V when the minimum PWM input (0) is applied to the ID sensor.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • BCU defective • Defect during ID sensor pattern writing • Charge power pack defective • ID sensor dirty
354	C	ID sensor error 5	
		20 s after the start of automatic adjustment, Vsg cannot be adjusted to target (4.0 ± 0.2V).	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • BCU defective • Defect during ID sensor pattern writing • Charge power pack defective • ID sensor dirty
355	C	ID sensor pattern voltage error	
		Drum potential sensor output is out of the target range (-100 - -400V) when reading the drum voltage for the ID sensor pattern.	• Drum potential sensor defective • Drum potential sensor harness disconnected • Drum potential sensor connector defective • IOB defective • Defect during ID sensor pattern writing • Charge power pack defective • Charge corona wire dirty

SC400: Image Development System (2)

SC No.		Symptom	Possible Cause
401	D	Transfer output abnormal	
		When the transfer is output, the feedback voltage remains higher than 4V for 60 ms.	• Transfer power pack defective • Poor connection between the transfer current terminal and the transfer power pack
402	D	Transfer output abnormal release detection	
		When the transfer is output, there is hardly any feedback voltage within 60 ms even with application of 24% PWM.	• Transfer power pack defective • Transfer unit harness disconnected • Transfer connector disconnected, defective
430	D	Quenching lamp error	
		At the completion of auto process control initialization, the potential of the drum surface detected by the potential sensor is more than –400V, the prescribed value.	• Quenching lamp defective • Quenching lamp harness disconnected • Quenching lamp connector disconnected or defective
440	D	Main motor lock	
		The main motor lock signal remains low for 2 seconds while the main motor is on.	• Too much load on the drive mechanism • Main motor defective
441	D	Development motor lock	
		The development motor lock signal remains high for 2 seconds while the development motor is on.	• Too much load on the drive mechanism • Development motor defective
490	D	Main fan abnormal	
		The main fan motor lock signal goes high for 5 s while the fan is on.	• Too much load on the motor, motor is blocked by something • Fan connector disconnected
495	D	Toner recycling unit error	
		Encoder pulse does not change for 3 s after the main motor switches on.	• Too much load on the drive mechanism • Toner end sensor detective, disconnected
496	D	Toner collection bottle error	
		The toner collection bottle set switch remains off when the front door is closed.	• No toner collection bottle set • Poor connection on the switch connector
497	D	Toner collection motor error	
		The toner collection motor connector set signal remains off for 1 s.	• Toner collection motor defective • Motor connector disconnected

SC500: Feed, Transport, Duplexing, and Fusing Systems

SC No.		Symptom	Possible Cause
501	B	Tray 1 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • Paper height sensor actuator does not move away from the sensor for 4 counts.	• Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle
502	B	Tray 2 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • Paper height sensor actuator does not move away from the sensor for 4 counts.	• Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle
503	B	Tray 3 lift malfunction	
		• The lift sensor is not activated within 13 s after the tray lift motor starts lifting the bottom plate. • At power on, or when the tray set sensor goes on after tray inserted, the tray continues to lower for 5 s. The motor stops but restarts when the tray is re-inserted.	• Tray lift motor defective or poor connection • Lift sensor defective or poor connection
504	B	Tray 4 lift malfunction	
		Japan only.	
507	B	LCT feed motor malfunction	
		One of the following conditions is detected: • The LD signal from the feed motor is detected abnormal for 50 ms after the motor switches on. • At power on, the motor is detected loose or disconnected.	• Feed motor defective • Feed motor connector disconnected • Obstacle interfering with operation of motor
510	B	LCT tray malfunction	
		One of the following conditions is detected: • When the bottom plate is lifted, the upper limit sensor does not come on for 18 s. • When the bottom plate is lowered, the lower limit sensor does not come on for 18 s. • After lift begins, the upper limit sensor does not switch on before the pick-up solenoid switches on. • The paper end sensor switches on during lift and the upper limit sensor does not switch on for 2.5 s, and a message prompts user to reset paper.	• Tray lift motor defective or connector disconnected • Lift sensor defective or disconnected • Pick-up solenoid defective or disconnected • Paper end sensor defective

SC No.		Symptom	Possible Cause
515	B	Tandem rear fence motor error	
		One of the conditions is detected: • The rear fence does not reach the return position within 10 s after the rear fence motor switches on, or does not return to the HP. • The HP sensor and return sensor switch on at the same time.	• Rear fence motor defective or poor connection • Paper or other obstacle trapped between tray and motor • Motor mechanical overload • Return sensor or HP sensor defective or dirty
516	B	Tandem side fence motor error	
		The side fences do not reach the fully open or closed position within 2 seconds after the side fence motor switches on.	• Side fence motor defective or poor connection • Motor mechanical overload • Side fence positioning sensor defective or dirty
520	D	Duplex jogger motor error 1	
		When the jogger fence moves to the home position, the jogger HP sensor does not turn on even if the jogger fence motor has moved the jogger fence 153.5 mm.	• Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
521	D	Duplex jogger motor error 2	
		When the jogger fence moves from the home position, the jogger fence HP sensor does not turn off even if the jogger motor has moved the jogger fence 153.5 mm.	• Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
541	A	Fusing thermistor open	
		• The fusing temperature detected by the thermistor is below 7°C for 35 seconds. • The center thermistor (non-contact) abnormal.	• Thermistor open • Thermistor connector defective • Thermistor damaged or warped • Fusing temperature –15% less than the standard input voltage
542	A	Fusing temperature warm-up error	
		• After power on, or after closing the front door, the hot roller does not reach the 80°C control temperature within 360 s. • After the fusing lamp temperature exceeds 80°C, temperature does not change 2 degrees within 20 s.	• Fusing lamp disconnected • Thermistor warped or installed incorrectly • Thermostat operating
543	A	Fusing lamp overheat error 1 (software)	
		• Central thermistor detected a temperature of 230°C at the center of the hot roller. • End thermistor detected 220°C x 100 ms 5 times at the end of the hot roller.	• PSU defective • BCU defective
544	A	Fusing lamp overheat error 1 (hardware)	
		The BCU detects an overheat error even if the protection in the software does not work.	• PSU defective • BCU defective

SC No.		Symptom	Possible Cause
545	A	Fusing lamp overheat error 2	
		After hot roller reaches the warm-up temperature, the fusing lamps continued full capacity output for 55 s without the hot roller rotating (for a total of 45s).	• Fusing thermistor out of position
547	D	Zero cross signal malfunction	
		One of the following conditions is detected 10 times: • When the main switch is on, the frequency measured by the number of zero cross signals for 500 ms is larger than 66Hz or smaller than 45 Hz. • The interval between one zero cross signal and the next is 7.5 ms or shorter 3 times consecutively for 500 ms.	• Noise on the ac power line
550	A	Fusing Web End	
		Web end detected 5 times within 500 ms and web motor continues to rotate 40 s. If web end is detected for another 400 ms, then the SC is logged.	• Web end (requires replacement) • Web end sensor defective **Note:** After replacing the web with a new one, reset SP1902 001 to 0 to release SC550.
590	D	Toner collection motor error	
		The toner collection motor sensor output does not change for 3 seconds while the toner collection motor is on.	• Toner collection motor defective • Motor drive defective • Toner collection motor sensor connector defective • Motor overload
599	D	1-bin Exit Motor Error (**should only occur in Japanese models**)	
		The transport lock sensor output does not change within 300 ms after the motor switches on.	• Motor overload • Motor drive defective

SC600: Data Communication

SC No.		Symptom	Possible Cause
601	D	Communication error between BCU and scanner unit	
		• BCU does not communicate with scanner unit within 0.8 s after power on. • BCU does not detect a break signal after connecting to scanner unit. • Communication error detected 3 times.	• Serial line connection unstable • External noise on the line
610	D	BCU ↔ ADF communication/timeout abnormal	
		After 1 data frame is sent to the ADF, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
611	D	BCU ↔ ADF communication/break reception abnormal	
		During communication a break (Low) signal was received from the ADF.	• Serial line connection unstable • Harness disconnected or defective
612	D	BCU ↔ ADF communication/command abnormal	
		An command that cannot be executed was sent from the main machine to the ADF.	• A software error, result of an abnormal procedure.
620	D	BCU ↔ ADF communication/timeout error	
		After 1 data frame is sent to the finisher MBX, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
621	D	BCU ↔ Finisher communication/break error	
		During communication with the finisher MBX, the BCU received a break (Low) signal from the finisher.	• Serial line connection unstable • External noise on the line
623	D	BCU ↔ Tray 1~3 communication/timeout error	
		After 1 data frame is sent to the trays, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
624	D	BCU ↔ Tray 1~3 communication/break reception error	
		During communication with the finisher trays, the BCU received a break (Low) signal.	• Serial line connection unstable • External noise on the line
626	D	BCU ↔ LCT communication/timeout error	
		After 1 data frame is sent to the LCT, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
627	D	BCU ↔ LCT communication/break reception error	
		During communication with the LCT, the BCU received a break (Low) signal.	• Serial line connection unstable • External noise on the line
630	D	CSS (RSS) communication error between line adapter and CSS center	
		Japan only	

SC No.		Symptom	Possible Cause
632	B	Key/card counter device error 1	
		After 1 data frame is sent to the device, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• The serial line from the device to the copier is unstable, disconnected, or defective.
633	B	Key/card counter device error 2	
		During communication with the device, the BCU received a break (Low) signal.	• The serial line from the device to the copier is unstable, disconnected, or defective.
634	B	Key/card counter device error 3	
		After installation of the device, a message alerts user to a backup RAM error.	• Device control board defective • Device control board backup battery defective
635	B	Key/card counter device error 4	
		After installation of the device a message alerts user to a battery voltage abnormal error.	• Device control board defective • Device control board backup battery defective
640	C	BCU ↔ Controller data transfer error 1	
		Data is sent from the BCU to the controller, but the transmission causes a checksum error.	• The error is logged but the machine can continue to operate.
641	C	BCU ↔ Controller data transfer error 2	
		Data is sent from the BCU to the controller, but the transmission causes a frame error.	• The error is logged but the machine can continue to operate.
670	D	Engine startup error	
		• Engine does not respond within 30 s after power on. • Engine down detected suddenly during power on and warmup.	• BCU installation incorrect • BCU defective • Sudden communication reset occurred between the BCU and the controller.
672	D	Controller startup error	
		• After power on the line between the controller and the operation panel does not open for normal operation. • After normal startup, communication with the controller ceases.	• Controller stalled • Controller installed incorrectly • Controller board defective • Operation panel harness disconnected or defective
690	D	GAVD Block 12 bus error	
		The register for this block is set for an error.	• IPU defective
691	D	GAVD FCI Block I2 bus error	
		The register for this block is set for an error.	• IPU defective
692	D	CDIC GAVD Block I2 bus error	
		The register for this block is set for an error.	• IPU defective

SC700: Peripherals

SC No.		Symptom	Possible Cause
700	D	ADF original pick-up error 1	
		Pick-up roller HP sensor signal does not change after the pick-up motor has turned on.	• Pick-up roller HP sensor defective • Pick-up motor defective • Timing belt slipping, out of position • ADF main board defective
701	D	ADF bottom plate motor error	
		• Bottom plate position sensor does not detect the plate after the bottom plate lift motor switches on to lift the plate. • Bottom plate HP sensor does not detect the plate after the bottom plate motor reverses to lower the plate.	• Bottom plate position sensor defective • Bottom plate HP sensor defective • Bottom plate motor defective • ADF main board defective
720	D	Finisher transport motor error	
		The encoder pulse of the transport motor does not change state (high/low) within 600 ms and does not change after 2 retries.	• Finisher transport motor defective • Transport motor harness disconnected, or defective • Finisher main board defective
722	B	Finisher jogger motor error	
		• The finisher jogger HP sensor remains de-activated for more 1,000 pulses when returning to home position. • The finisher jogger HP sensor remains activated for more than 1,000 pulses when moving away from home position.	• Jogger HP sensor defective • Jogger mechanism overload • Jogger motor defective (not rotating) • Finisher main board defective • Harness disconnected or defective
724	B	Finisher staple hammer motor error	
		Stapling does not finish within 450 ms after the staple hammer motor switches on and the stapler jams. Stapler is released from the reverse lock status. If the stapler does not operate within 450 ms, even in the reverse lock position, then the SC is logged.	• Staple jam • Stapler operation overload • Staple hammer motor defective • Motor connector disconnected, or defective
725	B	Finisher stack feed-out motor error	
		The stack feed-out belt HP sensor does not activate within the prescribed number of pulses after the stack feed-out motor turns on and does not activate after 2 retries.	• Stack feed-out HP sensor defective • Harness disconnected or defective • Stack feed-out motor defective • Finisher main board defective • Motor overload
726	B	Finisher upper tray lift motor error	
		The paper height sensor does not activate within the prescribed time after the upper tray lift motor turns on, or the sensor remains on after the motor reverses to lower the tray.	• Upper tray paper height sensor defective • Sensor harness disconnected, defective • Tray lift motor defective • Finisher main board defective • Tray lift motor overload

SC No.		Symptom	Possible Cause
727	B	Finisher stapler rotation motor error	
		The stapler motor switches on but the motor does not return to the home position within the prescribed number of pulses. After 2 counts, the SC is logged as a jam.	• Stapler rotation motor defective • Poor stapler rotation motor connection • Stapler rotation sensor defective • Finisher main board defective • Rotation motor overload
729	D	Finisher punch motor error	
		The punch HP sensor does not activate within the prescribed time the punch motor turns on.	• Punch HP sensor defective • Sensor harness disconnected, defective • Punch motor defective • Finisher main board defective • Poor punch motor overload
730	B	Finisher stapler movement motor error	
		The stapler HP sensor does activate within the prescribed time after the stapler motor turns on and moves the stapler away from home position. After 2 counts, the SC is logged as a jam.	• Stapler HP sensor defective • Sensor harness disconnected, defective • Stapler movement motor defective • Finisher main board defective • Stapler movement motor overload
732	B	Finisher shift roller motor error	
		The shift roller HP sensor does not activate within the prescribed time after the shift roller motor turns on. After 2 counts, the SC is logged as a jam.	• Shift roller HP sensor defective • Sensor harness disconnected, defective • Shift roller motor defective • Finisher main board defective • Shift roller motor overload
733	D	Finisher lower tray lift motor error	
		After the lift motor switches on to lift the tray, paper height sensor 2 does not detect the top of the paper stack, or after the motor reverses to lower the stack the top of the stack remains detected (the status of paper height sensor 1 does not change). After 2 counts, the SC is logged as a jam.	• Paper height sensor 1 or 2 defective • Sensor harness disconnected, defective • Tray lift motor defective • Finisher main board defective • Tray lift motor overload
735	B	Finisher pre-stack motor error	
		• The pre-stack motor starts but does not return to the home position within 400 pulses. After 2 counts, the SC is logged as a jam. • Motor does not return to the home position within 280 pulses immediately before or after pre-stacking. After 2 counts, the SC is logged as a jam.	• Jogger HP sensor defective • Sensor harnesses disconnected, defective • Pre-stack motor defective • Finisher main board defective • Pre-stack motor overload
736	B	Finisher paper exit guide plate motor error	
		The paper exit guide plate motor starts but the paper exit guide plate HP sensor does not activate within 750 ms. After 2 counts, the SC is logged as a jam.	• Guide plate HP sensor defective • Sensor harness disconnected, defective • Paper exit guide plate motor defective • Finisher main board defective • Guide plate motor overload.

SC No.		Symptom	Possible Cause
737	B	Trimmed staple waste hopper full	
		The hopper that holds the waste from staple trimming is full.	• Staple waste hopper full • Staple waste sensor defective
738	B	Finisher pressure plate motor error	
		The pressure plate motor switches on but does not return to the home position within the prescribed time after 2 counts.	• HP sensor defective • Harness disconnected, defective • Motor defective • Finisher main board defective • Motor overload
739	B	Finisher folder plate motor error	
		The folder plate motor turns on but the plate does not return to the home position within the prescribed time for 2 counts.	• Plate HP sensor defective • Harness disconnected, defective • Folder plate motor defective • Finisher main board defective • Folder plate motor overload
740	B	Finisher front saddle-stitch stapler motor error	
		Saddle-stitch stapler motor fails to operate within 450 ms within 2 counts..	• HP sensor defective • Harness disconnected, defective • Stapler motor defective • Finisher main board defective • Stapler motor overload
741	B	Finisher rear saddle-stitch stapler motor error	
		Saddle-stitch stapler motor fails to operate within 450 ms within 2 counts..	• HP sensor defective • Harness disconnected, defective • Stapler motor defective • Finisher main board defective • Stapler motor overload
742	B	Finisher jogger side fence motor error	
		The jogger motor turns on but the side fences to not return to the home position within 340 pulses for 2 counts.	• HP sensors defective • Harness disconnected, defective • Motor defective • Finisher main board defective • Motor overload
743	B	Finisher Jogger Motor Error	
		The jogger fences did not return to their horizontal home positions on both ends of the unit, or to their down home positions within the prescribed number of pulses. Only staple mode is disabled. Shift output, or output to the proof tray can still be used.	• Jogger lift sensor or jogger fence sensor connectors disconnected, loose, or damaged. • Jogger lift sensor or jogger fence sensor is defective. • Main harness connection loose or broken. • Shift jogger motor or shift jogger lift motor defective. Finisher main board defective.
750	B	Cover interposer bottom plate motor error	
		• The bottom plate motor turns on to raise the bottom plate but the plate position sensor does not detect the plate within 3 s. • The bottom plate motor reverses to lower the bottom plate but the bottom plate HP sensor does not detect the plate within 3 s.	• Bottom plate position sensor defective • Bottom plate HP sensor defective • Bottom plate motor defective • Cover sheet feeder main board defective • Harnesses disconnected, defective

SC800: Overall System

SC No.		Symptom	Possible Cause
800	D	Video output transfer does not end (K)	
		Video signal is sent to the engine but no command is received within the prescribed time from the engine to signal the end of transfer – output all black.	• Controller board defective
804	D	Video input transfer does not end (K)	
		Video transfer is requested from the scanner, but no command is received within the prescribed time from the scanner to signal a response – output all black.	• Controller board defective
818	C	Watchdog error	
		Control error	• System program defective • Controller board defective • Optional board defective
819	C	Fatal kernel error	
		Software defective	• Software defective
820	C	Self-diagnostic error: CPU	
		Unexpected external error or interrupt occurred.	• Controller board defective • Software defective
821	C	Self-diagnostic error: ASIC	
		ASIC timer interrupt and CPU timer interrupt are compared and found to be out of range.	• Controller board defective
822	C	Self-diagnostic error: HDD	
		Check performed when HDD is installed: • HDD device busy for over 31 s. • After a diagnostic command is set for the HDD, but the device remains busy for over 6 s. • A diagnostic command is issued to the HDD device but the result is an error.	• HDD defective • HDD harness disconnected, defective • Controller board defective
823	C	Self-diagnostic error: NIB	
		• The SUM of the MAC address written in the SEEP ROM for the MAC address is calculated and compared with the stored SUM and judged NG. • There is a format error in the MAC address stored in the SEEP ROM for the MAC address. • A loopback error occurs on the PHY chip of the NIB.	• NIB board defective • Controller board defective
824	C	Self-diagnostic error: NVRAM	
		NVRAM device does not exist, or NVRAM device is damaged.	• NVRAM defective • Controller board defective
825	C	Self-diagnostic error: NVRAM (option)	
		Optional NVRAM is installed, but a write/verify error occurred.	• Incorrect NVRAM installed.

SC No.		Symptom	Possible Cause
826	C	Self-diagnostic error: NVRAM (option NVRAM)	
		The difference between the 1 s measured for RTC in the NVRAM and the 1 s timeout of the CPU is out of range, or the NVRAM is not detected.	• NVRAM defective • NVRAM installed incorrectly
827	C	Self-diagnostic error: RAM	
		The write/verify check for the RAM mounted on the board resulted in an error.	• Controller board defective • RAM defective
828	C	Self-diagnostic error: ROM	
		• Measuring the CRC for the boot monitor and operating system program results in an error. • A check of the CRC value for ROMFS of the entire ROM area results in an error.	• Software defective • Controller board defective • ROM defective
829	C	Self-diagnostic error: RAM (option)	
		• A write/verify check of the RAM mounted on the board results in a error. • The SPD value of the entire RAM DIM is incorrect, or cannot be read. **Note**: RAM is not in use so the result is not displayed on the operation panel.	• Controller board defective • RAM defective
835	C	Self-diagnostic error: Centronic device	
		• Loopback connector is connected but check results in an error. • Loopback connector is connected but DMA data error detected. • Centronic loopback connector is not connected for detailed self-diagnostic test.	• Controller board defective • Centronic loopback connector not connected correctly • Centronic loopback connector defective
836	C	Self-diagnostic error: Font ROM	
		A device exists in the font area but it contains corrupted data.	• Font device defective
837	C	Self-diagnostic error: Font ROM (option)	
		A device exists in the font area but it contains corrupted data.	• Font device defective
838	C	Self-diagnostic error: Clock Generator	
		Setup data is read from the clock generator via the I2C bus but differs from the prescribed value.	• Controller board defective
850	B	Net I/F error	
		• Duplicate IP addresses. • Illegal IP address. • Driver unstable and cannot be used on the network.	• IP address setting incorrect • NIB (PHY) board defective • Controller board defective

SC No.		Symptom	Possible Cause
851	B	IEEE 1394 I/F error	
		Driver setting incorrect and cannot be used by the 1394 I/F.	• 1394 I/F connection incorrect • 1394 I/F board defective • Controller board defective
		USB driver is corrupted or has become unstable and cannot be used by the USB I/F.	• USB connection incorrect • Controller board defective
860	B	HDD startup error at main power on	
		• HDD is connected but a driver error is detected. • The driver does not respond with the status of the HDD within 30 s.	• HDD is not initialized • Level data is corrupted • HDD is defective
861	B	HDD re-try failure	
		At power on with the HDD detected, power supply to the HDD is interrupted, after the HDD is awakened from the sleep mode, the HDD is not ready within 30 s.	• Harness between HDD and board disconnected, defective • HDD power connector disconnected • HDD defective • Controller board defective
862	A	Number of bad sectors exceeds allowed maximum	
		The number of bad sectors on the HDD in the area for storing images exceeds 101.	• Execute 5832 001 to format the HDD and replace the bad sectors. HDD replacement is recommended because an HDD unit that generates bad sectors is probably of poor quality and performs poorly.
863	D	HDD data read failure	
		The data written to the HDD cannot be read normally, due to bad sectors generated during operation.	• HDD defective • **Note**: If the bad sectors are generated at the image partition, the bad sector information is written to NVRAM, and the next time the HDD is accessed, these bad sectors will not be accessed for read/write operation.
864	D	HDD data CRC error	
		During HDD operation, the HDD cannot respond to an CRC error query.	• Data transfer did not execute normally while data was being written to the HDD.
865	D	HDD access error	
		HDD responded to an error during operation for a condition other than those for SC863, 864.	• HDD defective.
⇒ 876	D	Log Data Error	
		The log data has been corrupted at power on, while the machine was operating, or when the machine was powered off during a print or copy cycle. The machine should never be switched off while it is printing or copying.	
876-1		Log data file was corrupted at power on or while the machine was operating.	Format the HDD with SP5832-004.

Trouble-shooting

SC No.		Symptom	Possible Cause
876-2		The log was set for encryption without the encryption module installed: At power on While the machine was operating When the log encryption setting was changed.	Install or replace and set the encryption module. Enable the log encryption setting.
876-3		At power on the log encryption key was disabled, causing an NVRAM malfunction.	Format the disk with SP5832-004.
876-4		At power on the machine attempted log data encryption with the log encryption setting disabled (NVRAM malfunction). -or- At power on log encryption was attempted with the log encryption setting disabled (NVRAM malfunction).	Format the disk with SP5832-004.
876-5		Error occurred at power on. Only the NVRAM was replaced with an NVRAM from another machine. -or- Only the HDD was replaced with an HDD unit from another machine.	Replace NVRAM with original NVRAM. Replace HDD with original HDD. If the error persists, format the HDD with SP5832-004.
876-99		Cause unknown. The error occurred at power on or while the machine was operating.	Contact Ricoh design section.

SC900: Miscellaneous

SC No.		Symptom	Possible Cause
900	D	Electrical total counter error	
		The total counter contains something that is not a number.	• NVRAM defective
901	D	Mechanical total counter error	
		The mechanical counter is not connected.	• Mechanical total counter defective • Mechanical total counter connector not connected
951	C	F-GATE signal error	
		When the IPU has already received the F-GATE signal (laser writing start trigger signal), the IPU receives another F-GATE signal.	• Software defective • BCU defective
953	D	Scanner image setting error	
		The settings required for image processing using the scanner are not sent from the IPU.	• Software defective
954	D	Printer image setting error	
		The settings required for image processing using the printer controller are not sent from the IPU.	• Software defective

SC No.		Symptom	Possible Cause
955	D	Memory setting error	
		The settings that are required for image processing using the memory are not sent from the IPU.	• Software defective
964	D	Printer ready error	
		The print ready signal is not generated for more than 17 seconds after the IPU received the print start signal.	• Software defective
984	D	Print image data transfer error	
		After a data transfer begins from the controller to the engine via the PCI bus, the transfer does not end within 15 s.	• Controller board defective • BICU defective • BICU, controller disconnected
985	D	Scanned image data transmission error	
		After a data transfer begins from the engine to the controller via the PCI bus, the transfer does not end within 3 s.	• Controller board defective • BICU defective • BICU, controller disconnected
986	D	Value of setting for software write parameter incorrect	
		The write parameter received by the write module at the beginning of the setting table is NULL.	• Controller board defective • BICU defective • BICU, controller disconnected
990	D	Software performance error	
		The software performs an unexpected function and the program cannot continue.	• Software defective, re-boot[*1]
991	C	Software capable of looping cannot continue	
		The software performs an unexpected function and the program cannot continue. However, unlike SC990, recovery processing allows the program to continue.	• Software defective, re-boot[*1]

[*1]: In order to get more details about SC990 and SC991:

1) Execute SP7403 or print an SMC Report (SP5990) to read the history of the 10 most recent logged errors.
2) If you press the zero key on the operation panel with the SP selection menu displayed, you will see detailed information about the recently logged SC990 or SC991, including the software file name, line number, and so on. 1) is the recommended method, because another SC could write over the information for the previous SC.

SC No.		Symptom	Possible Cause
992	C	Undefined software error	
		Software encountered an unexpected operation. This error is issued if the error cannot be covered by SC990.	• Software defective • An error undetectable by any other SC code occurred
997	D	Cannot select application function	
		Application does not start after pressing the appropriate key on the operation panel.	• Software bug • A RAM or DIMM option required by the application is not installed or not installed correctly.

SC No.		Symptom	Possible Cause
998	D	Application cannot start	
		Register processing does not execute for any application within 60 s after the machine is powered on. All applications do not start correctly, and all end abnormally.	• Software bug • A RAM or DIMM option required by the application is not installed or not installed correctly.
999	D	Program download error	
		The program download from the IC card does not execute normally. This SC is not logged.	• Card installed incorrectly • BICU defective • IC card defective • NVRAM defective • Power down during program downloading

4.2.3 ADDITIONAL SC CODES PRINTED IN SMC REPORT

Here is a list of SC codes that are printed in the SMC report but may not appear in the operation panel display. Note that the codes that have the same number are identified by an additional 4-digit hexadecimal number.

SC No.		Symptom	Possible Cause
820	0001	TLB conversion (store) exception error	Unexpected error in CPU device: • Controller board defective • Boot monitor or self-diagnostic program corrupted
820	0002	TLB miss (load) exception error	
820	0003	TLB miss (store) exception error	
820	0004	Read address exception error	
820	0005	Write address exception error	
820	0006	Command bus exception error	
820	0007	Data bus exception error	
820	0008	System call exception error	
820	0009	Break exception error	
820	000A	Illegal command exception error	
820	000B	Potential sensor exception error	
820	000C	Overflow exception error	
820	000D	UTLB miss exception error	
820	0010	Allocation 0 error	
820	0011	Allocation 1 error	
820	0012	Allocation 2 error	
820	0013	Allocation 3 error	
820	0014	Allocation 4 error	
820	0015	Allocation 5 error	
820	00FF	Non-initialization allocation error	• CPU defective • Local bus defective • Controller board defective
820	0601	Read address exception error	• CPU device error • Controller board defective
820	0602	Write address exception error	
820	0605	System call exception error	
820	0606	Break point exception error	
820	0607	Illegal command exception error	
820	060A	Allocation 0 mask exception error	• CPU device error • ASIC device error • Controller board defective
820	060B	Allocation 1 mask exception error	
820	060C	Allocation 2 mask exception error	
820	060D	Allocation 3 mask exception error	
820	060E	Allocation 4 mask exception error	
820	0610	CPU timer 2 allocation set error	• CPU device error • Controller board defective
820	0612	ASIC allocation error	• ASIC device error • Controller board defective • Peripheral device defective
820	06FF	CPU master clock error	• CPU device error • Error in CPU initialization data (ASIC error) • Controller board defective

SC No.		Symptom	Possible Cause
820	0702	Command cache error	• CPU cache defective • Controller board defective • Memory error (insufficient speed)
820	0709	Data cache error	• CPU device error • Boot mode setting for CPU error • Controller defective • Insufficient memory
820	070A	Data cache clear error	
820	0801	TLB virtual address error	• CPU device defective (controller board defective)
820	0804	TLB global error	
820	0807	UTLB miss error	
820	0808	TLB read miss error	
820	0809	TLB write miss error	
820	080A	TLB mode file error	
820	4002	Single-precision calculation error	• CPU error (controller board defective)
820	4003	Double-precision calculation error	
820	4004	Exception error	
820	4005	Exception mask error	
822	3003	HDD timeout	• HDD defective • HDD connector disconnected, defective • ASIC device error (controller board defective)
822	3004	Self-diagnostic command error	• HDD defective
823	6101	MAC address SUM error	• NIB (PHY) board defective • Controller board defective
823	6104	PHY chip ID illegal	
823	6105	PHY loopback error	
824	1401	NVRAM verify error	• NVRAM defective
826	1501	Clock error	• Optional NVRAM defective
826	15FF	RTC non-detection error	• Incompatible NVRAM installed • NVRAM battery defective
826	0201	Resident memory verify error	• Memory on controller board defective • RAM DIMM defective
828	0101	Boost trap code (CODE) error	• Software storage error (re-install software) • Controller board defective
828	0104	ROM FS error	• ROM device error
828	0105	Forgery prevention error	• Forgery prevention chip defective • Forgery prevention chip error • Replace the controller, ROM, or RAM DIMM
829	0301	Option memory 0 verify error	• Controller board internal memory error • RAM DIMM defective
829	0302	Option memory 0 configuration information error	
835	1102	Verify error	• Loopback connector error (controller board defective)
835	110C	DMA verify error	• Loopback connector error • Controller board defective
835	1120	Loopback connector non-detection	• Loopback connector not set • Loopback connector error • Controller board defective
836	1601	Font ROM 0 error	
837	1602	Font ROM 1 error	
838	2701	Verify error	

SC No.		Symptom	Possible Cause
853	D	IEEE802 11b card startup error	
		Not used.	
854	D	IEEE802 11b card access error	
		Not used.	
855	D	IEEE802 11b card error	
		Not used.	
856	D	IEEE802 11b card connection board error	
		Not used.	
870	B	Address book data error	
		The address book in the hard disk is accessed. → An error is detected in the address book data; address book data is not read; or data is not written into the address book. NOTE: To recover from the error, do any of the following countermeasures: Format the address book by using SP5-832-008 (all data in the address book–including the user codes and counters–is initialized) Initialize the user data by using SP5-832-006 and -007 (the user codes and counters are recovered when the main switch is turned on). Replace the hard disk (the user codes and counters are recovered when the main switch is turned on).	• Data corruption • Defective hard disk • Defective software
920	D	Printer error	
		The printer program cannot be continued.	• Defective hardware • Data corruption • Defective software
925	D	Net file error	
		The management file for net files is corrupted; net files are not normally read. Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software	• Defective hardware • Data corruption • Defective software
992	C	Other system SCs	
		The controller received an unknown SC code from the engine.	• Contact your product specialist.
993	D	Network error	
		The ASIC program of GW controller cannot be continued.	• Defective ASIC • Defective GW controller

4.3 B140/B246/D052 SERIES SERVICE MODE

4.3.1 SERVICE MODE LOCK/UNLOCK

At locations where the machine contains sensitive data, the customer engineer cannot operate the machine until the Administrator turns the service mode lock off. This function makes sure that work on the machine is always done with the permission of the Administrator.

NOTE: This function is not used on B064 series machines.

1. If you cannot go into the SP mode, ask the Administrator to log in with the User Tool and then set “Service Mode Lock” to OFF. After he or she logs in:

   User Tools > System Settings > Administrator Tools > Service Mode Lock > OFF

   - This unlocks the machine and lets you get access to all the SP codes.
   - The CE can do servicing on the machine and turn the machine off and on. It is not necessary to ask the Administrator to log in again each time the machine is turned on.

2. If you must use the printer bit switches, go into the SP mode and set SP 5169 to “1”.

3. After machine servicing is completed:
   - Change SP 5169 from “1” to “0”.
   - Turn the machine off and on. Tell the administrator that you completed servicing the machine.
   - The Administrator will then set the “Service Mode Lock” to ON.

4.3.2 B140/B246/D052 SERIES SERVICE CALL CONDITIONS

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	Fusing unit SCs displayed on the operation panel. The machine is disabled. The user cannot reset the SC.	Enter SP mode, then turn the main power switch off and on.
B	SCs that disable only the features that use the defective item. Although these SCs are not shown to the user under normal conditions, they are displayed on the operation panel only when the defective feature is selected.	Turn the main power switch off and on.
C	SCs that are not shown on the operation panel. They are internally logged.	Logging only
D	Turning the operation switch or main power switch off then on resets SCs Displayed on the operation panel. These are re-displayed if the error occurs again.	Turn the operation switch or main power switch off and on.

4.3.3 B140/B246/D052 SERIES SC CODE DESCRIPTIONS

Important

- If a problem concerns electrical circuit boards, always disconnect then reconnect the connectors before replacing the PCBs.
- If a motor lock error occurs, first check the mechanical load before replacing motors or sensors.
- When a Level “A” or “B” SC occurs while in an SP mode, the display does not display the SC number. If this occurs, check the SC number after leaving the SP mode.

How to Read These Tables

Most of the SC codes in these tables apply to both the B140 Series and B246/D052 Series machines. However, there are some differences. These differences are annotated:

- If an SC code applies to the B140 Series machine only, this SC will be marked "B140" to the right of the number.
- If an SC code applies to the B246/D052 Series machine only, this SC will be marked "B246/D052".
- If there is neither a "**B140**" nor "**B246**" notation, the SC code applies to both machines.
- Pay special attention to the "**B140/B246** Duplicated Number" notation. The same number SC codes exist in both machines but the meaning is different.

SC100: Scanning System

SC No.		Symptom	Possible Cause
101	D	Exposure Lamp Error	
		At trigger on, the lamp was not detected on.	• Exposure lamp defective • Lamp regulator defective • Lamp regulator harness damaged, disconnected • Dirty standard white plate • Scanner mirror dirty or out of position • Lens dirty, out of position • SBU board defective
120	D	Scanner home position error 1	
		The scanner HP sensor does not detect the on condition during initialization or copying.	• BCU, SDRB (Scanner Driver Board) defective • Scanner motor defective • Harness between BCU, SDRB, scanner motor disconnected. • Scanner HP sensor defective. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, carriage installed incorrectly.
121	D	Scanner home position error 2	
		The scanner HP sensor does not detect the off condition during initialization or copying.	• BCU, SDRB (Scanner Driver Board) defective • Scanner motor defective • Harness between BCU, SDRB, scanner motor disconnected • Scanner HP sensor defective • Harness between scanner HP sensor and BCU disconnected • Scanner wire, timing belt, pulley, carriage installed incorrectly.
122	D	Scanner home position error 3	
		The scanner home position sensor does not detect the on condition during original scanning.	• BCU, SDRB (Scanner Driver Board) defective • Scanner motor defective • Harness between BCU, SDRB, scanner motor disconnected • Scanner HP sensor defective • Harness between scanner HP sensor and BCU disconnected • Scanner wire, timing belt, pulley, carriage installed incorrectly

123	D	Scanner home position error 4	
		The scanner home position sensor does not detect the off condition during original scanning.	• BCU, SDRB (Scanner Driver Board) defective • Scanner motor defective • Harness between BCU, SDRB, scanner motor disconnected • Scanner HP sensor defective • Harness between scanner HP sensor and BCU disconnected • Scanner wire, timing belt, pulley, carriage installed incorrectly.
143	C	SBU auto adjust error	
		Automatic adjustment of the SBU fails when the machine is switched on.	• Exposure lamp defective • Exposure lamp regulator defective • Harness between exposure lamp and lamp regulator is disconnected • White plate installed incorrectly or is dirty • Scanning mirrors of the exposure unit are dirty or out of position • SBU board defective • VIB board defective. • Harness between SBU, VIB disconnected • Harness between VIB, BCU disconnected
144	D	SBU transmission error	
		After the SBU switches on, the BCU detects one of the following conditions on the SBU: • 1 s after power on, the SYDI signal does not go high, even after 1 retry. • 1 s after power on, the SYDI signal goes high, but the SBU ID could not be read after 3 attempts.	• SBU defective • VIB defective • Harness (40-pin shielded) between the SBU, VIB is disconnected • Harness (shielded cable) between the VIB, BCU is disconnected
165		Copy data security unit error B828	**B246/D052**
		The copy data security option is installed by not operating correctly.	• Copy data security card corrupted • The board is not installed or the board is defective • IPU board defective

181	D	CIS lamp abnormal	
		After the CIS lamp trigger goes on, the CIS lamp is not detected on. Detecting the lamp on or off determines the peak white level value for shading correction. (If the peak level is determined to be below a certain level, the CIS lamp is judged to be off.)	• CIS lamp defective • CIS power supply board defective • CIS lamp regulator defective • Harness between lamp and lamp regulator is disconnected. • Harness between CIS, ADF is disconnected • CIS exposure glass dirty. • White roller dirty or installed incorrectly • CIS unit defective
183	C	CIS auto adjust error	
		Automatic adjustment of the CIS unit failed.	• CIS unit defective • CIS exposure glass dirty • White roller dirty or installed incorrectly
184	D	CIS transmission error	
		When the CIS is powered on, the ADF detects one of the following abnormal conditions on the CIS unit: • The SOUT signal does not go high within 1 s after power on. • The SOUT signal goes high within 1 s after power on, but the SBU ID cannot be read after 3 attempts.	• CIS unit defective • Harness between the CIS, ADF is disconnected

SC200: Exposure

202		Polygon mirror motor error 1: Timeout at ON	**B246/D052**
		The polygon mirror motor unit did not enter "Ready" status within 20 sec. after the motor was turned on, or within 20 sec. after the speed of rotation was changed.	• The polygon mirror motor PCB connector is loose, broken, or defective • Polygon mirror motor PCB defective • Polygon mirror motor defective • IPU defective
203		Polygon mirror motor error 2: Timeout at OFF	**B246/D052**
		The polygon mirror motor did not leave "Ready" within 3 sec. after the motor was switched off. (The XSCRDY signal did not go HIGH (inactive) within 3 sec.)	• The polygon mirror motor PCB connector is loose, broken, or defective • Polygon mirror motor PCB defective • Polygon mirror motor defective • IPU defective
204		Polygon mirror motor error 3: XSCRDY signal error	**B246/D052**
		The polygon mirror motor "Ready" signal went inactive (HIGH) while the motor was operating at normal speed, even though the motor was neither switched off nor was there a request for a change in speed.	• Electrical oise interference on the line with the motor signals • Polygon mirror motor PCB connector loose, broken, defective • Polygon mirror motor PCB defective • Polygon mirror motor defective
205		Polygon mirror motor error 4: Unstable timeout	**B246/D052**
		The "Ready" signal (XSCRDY) was detected as unstable for more than 20 sec. while the polygon mirror motor was operating at normal speed.	• Electrical noise on the line with the motor signals • Polygon mirror motor PCB connector loose, broken, defective • Polygon mirror motor PCB defective • IPU defective
220		Laser synchronization detection error	**B246/D052**
		The 1st laser synchronization detection unit could not detect the line synchronization signal (DETP0) within 500 ms while the polygon mirror motor was operating at normal speed. **NOTE**: The unit polls for the signal every 50 ms. This SC is issued after the 10th attempt fails to detect the signal.	• Laser synchronization board connector loose, broken, defective • Laser synchronization detection board is not installed correctly (out of alignment) • Laser synchronization board defective • IPU defective

SC300: Image Development System (1)

SC No.		Symptom	Possible Cause
300	D	Charge corona output error	
		The feedback voltage from the charge corona unit is detected too high 9 times.	• Charge corona power pack defective • Charge corona harness disconnected • Poor charge corona unit connection
303	C	Charge corona grid leak	
		When the high voltage is output to the corona grid, feedback voltage exceeds the prescribed value 9 times.	• Charge corona power pack defective • Charge corona harness disconnected • Poor charge corona unit connection
304	D	Charge grid circuit open	
		When high voltage goes to the corona grid, feedback voltage is more than the set value 9 times. This feedback voltage is used to update PWM for output control.	• Charge corona unit defective or disconnected • Charge corona harness defective • Charge corona power pack is defective.
305	D	Charge corona wire cleaner error 1	
		The charge cleaner pad does not arrive at the home position: • Motor locked within 4 s after switching on, or does not lock within 30 s. • Motor locked within 10 s after reversing, or does not lock within 30 s.	• Charge corona wire cleaner motor defective • Motor driver defective
306	C	Charge corona wire cleaner error 2	
		Charge coronal motor is disconnected. (The current at the charge corona motor is detected less than 83 mA.)	• Charge corona wire cleaner motor connector is defective, connected.

NOTE: When SC310~SC317 are logged, the machine halts without displaying the SC number. These SC codes log an abnormal condition at the potential sensor only when SP3901 (Auto Process Control) is set to on.

SC No.		Symptom	Possible Cause
310	D	Potential sensor calibration error 1	
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (–100V, –800V) are applied to the drum.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

311	C	Potential sensor calibration error 2	
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (–100V, –800V) are applied to the drum.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective
312	C	Potential sensor calibration error 3	
		During drum potential sensor calibration when adjusting the drum potential (VD), the drum potential sensor detects VD higher than VG (grid voltage). -or- When adjusting VD (drum surface potential of black areas after exposure), even after 5 adjustments of VG (charge corona grid potential), VD could not be set in the target range (–800±10 + VL + 130V)	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective • Charge corona unit worn out, dirty
314	C	Potential sensor calibration error 4	
		During drum potential sensor calibration when adjusting the drum potential (VH) for LD power adjustment, the first time the VH pattern is made, the drum potential sensor detects that VH is more than 500V: VH > |–500 + VL + 130| V	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • LD defective
315	C	Potential sensor calibration error 5	
		During drum potential sensor calibration, when –100V is applied to the drum, the output value is out of the prescribed range.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective
316	C	Potential sensor calibration error 6	
		During drum potential sensor calibration, when –800V is applied to the drum, the output value is out of the prescribed range.	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

317	C	Potential sensor calibration error 7	
		During drum potential sensor calibration, when VL is adjusted, the pattern surface potential VL pattern is not within range 0V ~ –400V. (VL is the potential after exposing a white pattern.)	• Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Charge corona power pack defective • Development power pack defective
321	D	F-GATE error	**B140 Only**
		The laser writing signal (F-GATE) for the IPU does not go LOW within 60 s.	• BICU board defective • PCI bus between controller board, BICU board defective
322	D	Laser synchronization detector error	**B140 Only**
		After the polygon motor reaches standard rotation speed and the LD unit fires for 500 ms, the laser synchronization detector does not generate a signal.	• Harness between detector and I/F disconnected or damaged • Detector is installed incorrectly • Detector board is defective • IPU board defective
335	D	Polygon mirror motor error 1	**B140 Only**
		The ready signal does not go low within 20 s after the polygon mirror motor turns on or changes speed.	• Harness between I/F and polygon motor disconnected or defective • Polygon motor or polygon motor driver defective • IPU board defective
336	D	Polygon mirror motor error 2	**B140 Only**
		The ready signal does not go high within 20 s after the polygonal mirror motor turns off.	• Harness between I/F and polygon motor disconnected or defective • Polygon motor or polygon motor driver defective • IPU board defective
337	D	Polygonal mirror motor error 3	**B140 Only**
		The XSCRDY signal goes high while the polygon mirror motor turns on, even though there was no request to either turn off the motor or change the motor speed.	• Noise on the line where the polygon ready signal (XSCRDY) is transmitted. • Harness between the polygon motor and I/F disconnected or defective. • Polygon motor or polygon motor driver defective
338	D	Polygonal mirror motor error 4	**B140 Only**
		While the polygon motor is rotating, the XSCRDY signal goes high during exposure.	• Noise on the linef where the polygon ready signal (XSCRDY) is transmitted. • Harness between the polygon motor and I/F disconnected or defective. • Polygon motor or polygon motor driver defective • IPU board defective

340	C	TD sensor output error	
		TD sensor output voltage (Vt), measured during each copy cycle, is detected 10 times at one of the following levels: Vt = 0.5 volts or lower Vt = 4.0 volts or higher	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective • Toner bottle motor defective **NOTE**: When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.
341	D	TD sensor adjustment error 1	
		During the TD sensor auto adjustment, the TD sensor output voltage (Vt) is 2.5 volts or higher even though the control voltage is set to the minimum value (PWM = 0). When this error occurs, SP2-906-1 reads 0.00V. **Note**: This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective • Toner bottle motor defective **NOTE**: When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.
342	D	TD sensor adjustment error 2	
		During the TD sensor auto adjustment, the TD sensor output voltage (Vt) does not enter the target range (3.0 ± 0.1V) within 20 s. When this error occurs, the display of SP2-906-1 reads 0.00V. **Note**: This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.	• TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective
345	D	Development output abnormal	
		The high voltage applied to the development unit is detected 10 times higher than the upper limit (45%) of PWM.	• Development power pack defective • Development bias leak due to poor connection, defective connector
350	C	ID sensor error 1	
		One of the following ID sensor output voltages was detected twice consecutively when checking the ID sensor pattern. Vsp $\geq$ 2.5V Vsg < 2.5 Vsp = 0V Vsg = 0	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty

351	C	ID sensor error 2	
		The ID sensor output voltage is 5.0V and the PWM signal input to the ID sensor is 0 when checking the ID sensor pattern.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty
352	C	ID sensor error 3	
		For 2 s during the ID sensor pattern check, the ID sensor pattern edge voltage is not 2.5V or the pattern edge is not detected within 800 ms.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty
353	C	ID sensor error 4	
		One of the following ID sensor output voltages is detected at ID sensor initialization. • Vsg < 4.0V when the maximum PWM input (255) is applied to the ID sensor. • Vsg ≥ 4.0V when the minimum PWM input (0) is applied to the ID sensor.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty
354	C	ID sensor error 5	
		Vsg falls out of the adjustment target (4.0 ± 0.2V) during Vsg checking.	• ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty
355	C	ID sensor error 6	
		The Vp value, which measures the reflectivity of the ID sensor pattern, was not in the range of –70V to –400V.	• Potential sensor defective • Potential sensor harness defective • Potential sensor disconnected • IOB defective • OPC unit connector defective • Charge corona power pack defective • Charge corona wire dirty, broken

SC400: Image Development System (2)

SC No.		Symptom	Possible Cause
401	D	Transfer output abnormal	
		When the transfer is output, the feedback voltage remains higher than 4V for 60 ms.	• Transfer power pack defective • Transfer current terminal, transfer power pack disconnected, damaged connector
402	D	Transfer output abnormal release detection	
		When the transfer is output, there is hardly any feedback voltage within 60 ms even with application of 24% PWM.	• Transfer power pack defective • Transfer unit harness disconnected • Transfer connector loose, defective
430	C	Quenching lamp error	
		At the completion of auto process control initialization, the potential of the drum surface detected by the potential sensor is more than –400V, the prescribed value.	• Quenching lamp defective • Quenching lamp harness disconnected • Quenching lamp connector loose, defective
440	D	Main motor lock	
		The main motor lock signal remains low for 2 seconds while the main motor is on.	• Drive mechanism overloaded • Motor driver board defective
441	D	Development motor lock	
		The development motor lock signal remains high for 2 seconds while the development motor is on.	• Drive mechanism overloaded due to toner clumping in the wasted toner path • Motor driver board defective
		If this SC is returned on a machine in the field, inspect the toner supply unit coil. If the gear is not damaged replace the coil. If the gear is damaged, the gear shaft is probably deformed, so replace the entire unit.	
490	D	Main fan error	
		The main fan motor lock signal goes high for 5 s while the fan is on.	• Fan motor overloaded due to obstruction • Fan connector disconnected
495	D	Toner recycling unit error	
		Encoder pulse does not change for 3 s after the main motor switches on.	• Waste toner transport has stopped due to motor overload • Toner end sensor detective, disconnected
496	D	Toner collection bottle error	
		The toner collection bottle set switch remains off when the front door is closed.	• No toner collection bottle set • Poor connection of the switch connector
497	D	Toner collection motor error	
		The toner collection motor connector set signal remains off for 1 s.	• Toner pump motor defective • Motor connector loose, disconnected

SC500: Feed, Transport, Duplexing, and Fusing Systems

SC No.		Symptom	Possible Cause
501	B	Tray 1 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 sec. • Tray overload detected when the tray is set. • The lower limit sensor of the LCT does not detect the lower limit within 10 sec.	• Tray lift motor defective, disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected, blocked by an obstacle • Too much paper loaded in tray **NOTE (B246/D052)** • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator cycles the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.
502	B	Tray 2 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 sec. • Tray overload detected when the tray is set.	• Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle • Too much paper loaded in tray **NOTE (B246/D052)** • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator cycles the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.
503	B	Tray 3 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 sec. • Tray overload detected when the tray is set.	• Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle • Too much paper loaded in tray **NOTE (B246/D052)** • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator cycles the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.

504	B	Tray 4 lift malfunction	
		• The lift sensor is not activated within 10 seconds after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 sec. • Tray overload detected when the tray is set.	• Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle • Too much paper loaded in tray **NOTE (B246/D052)** • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator cycles the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.
507	B	LCT feed motor malfunction	
		One of the following conditions is detected: • The LD signal from the feed motor is detected abnormal for 50 ms after the motor switches on. • At power on, the motor is detected loose or disconnected.	• Feed motor defective • Feed motor connector disconnected • Obstacle interfering with mechanical movement of motor.
510	B	LCT tray malfunction	
		One of the following conditions is detected: • When the bottom plate is lifted, the upper limit sensor does not come on for 18 s. • When the bottom plate is lowered, the lower limit sensor does not come on for 18 s. • After lift begins, the upper limit sensor does not switch on before the pick-up solenoid switches on. • The paper end sensor switches on during lift and the upper limit sensor does not switch on for 2.5 s, and a message prompts user to reset paper.	• Tray lift motor defective or connector disconnected • Lift sensor defective or disconnected • Pick-up solenoid defective or disconnected • Paper end sensor defective

515	B	Tandem rear fence motor error	
		One of the conditions is detected: • The return sensor does not switch on within 10 sec. after the rear fence motor switches on. • The HP sensor does not switch on 10 sec. after the rear fence motor switches on. • The HP sensor and return sensor switch on at the same time.	• Rear fence motor defective or poor connection • Paper or other obstacle interfering with operation of the sensors • Paper or other obstacle trapped between tray and motor • Motor mechanical overload due to obstruction • Return sensor or HP sensor defective or dirty **NOTE (B246/D052)** • This problem will not issue the SC code on the operation panel. • The machine will prompt the operator to reset tray by opening and closing it. • If the problem persists, the machine will display again and the tray cannot be used.
520	C	Duplex jogger motor error 1	
		When the jogger fence moves to the home position, the jogger HP sensor does not turn on even if the jogger fence motor has moved the jogger fence 153.5 mm.	• Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
521	C	Duplex jogger motor error 2	
		When the jogger fence moves from the home position, the jogger fence HP sensor does not turn off even if the jogger motor has moved the jogger fence 153.5 mm.	• Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
531	D	Fusing exit motor error	
		The PLL lock signal was low for 2 seconds during motor operation.	• Motor lock caused by physical overload • Motor drive PCB defective
541	A	Fusing thermistor open	
		The fusing temperature detected by the center thermistor was below 0°C for 7 sec.	• Thermistor open • Thermistor connector defective • Thermistor damaged, or out of position • Fusing temperature –15% less than the standard input voltage
542	A	Fusing temperature warm-up error	
		One of the following occurred: • After power on, or after closing the front door, the hot roller does not reach the 100°C control temperature within 25 s. • 5 sec. after temperature rise started, temperature remained below 21°C after 5 samplings. • Fusing unit did not attain reload temperature within 48 sec. of the start of fusing temperature control.	• Fusing lamp disconnected • Thermistor warped, out of position • Thermostat not operating

543	A	Fusing lamp overheat error 1 (software)	
		Central thermistor detected a temperature of 240°C at the center of the hot roller. Fusing temperature control software error	• PSU defective • IOB defective • BICU defective
544	A	Fusing lamp overheat error 1 (hardware)	
		The central thermistor or an end thermistor detected a temperature of 250°C on the hot roller.	• PSU defective • IOB defective • BICU defective
545	A	Fusing lamp overheat error 2	
		After hot roller reaches warmup temperature, the fusing lamps remained on at full capacity for 11 samplings (1.8 sec. duration) while the hot roller was not rotating.	• Thermistor damaged, or out of position • Fusing lamp disconnected
547	D	Zero cross signal malfunction	
		One of the following conditions is detected 10 times: • When the main switch is on, the frequency measured by the number of zero cross signals for 500 ms is larger than 66Hz or smaller than 45 Hz. • The interval between one zero cross signal and the next is 7.5 ms or shorter 3 times consecutively for 500 ms.	• Noise on the ac power line
550	A	Fusing Web End	
		Web end detected 5 times within 500 ms and web motor continues to rotate 40 s. If web end is detected for another 500 ms, then the SC is logged.	• Web end (requires replacement) • Web end sensor defective **NOTE:** After replacing the web with a new one, reset **SP1902 001** to "0" to release SC550.
551	A	Fusing thermistor error 1	
		The end thermistor (contact type) was less than 0C (32F) for more than 7 seconds.	• Thermistor disconnected • Thermistor connector defective
552	A	Fusing thermistor error 2	
		The end thermistor (contact type) could not detect: • 100°C 25 seconds after the start of the warmup cycle. • A change in temperature more than than 16 degrees for 5 seconds. • The reload temperature with 56 seconds after the start of the fusing temperature control cycle.	• Fusing lamp disconnected • Thermistor bent, damaged • Thermistor position incorrect

553	A	Fusing thermistor error 3	
		The end thermistor (contact type) was at 240°C (464°F) for more than 1 second. The temperature is read 10 times every sec. (at 0.1 sec. intervals).	• PSU defective • IOB control board defective • BICU control board defective
555	A	Fusing lamp error	
		After the start of the warmup cycle, a fusing lamp was at full power for 1.8 seconds but the hot roller did not turn.	• Thermistor bent, out of position • Fusing lamp disconnected • Circuit breaker opened
557		Zero cross signal error	**B246/D052**
		High frequency noise was detected on the power line.	• No action required. The SC code is logged and the operation of the machine is not affected.
559	A	Fusing jam: 3 counts	**B246/D052**
		At the fusing exit sensor the paper was detected late for three pulse counts (lag error), and SP1159 was on.	• ?????????? NIA Query!
569	D	Fusing pressure release motor error	
		During copying, the HP sensor could not detect the actuator, tried again 3 times and could not detect.	• Motor lock because of too much load • Motor driver defective • HP sensor defective, disconnected, connector defective, harness damaged
590	D	Toner collection motor error	
		The toner collection motor sensor output does not change for 3 seconds while the toner collection motor is on.	• Motor lock due to obstruction • Motor driver board defective • Motor connection loose, defective • Toner collection motor sensor disconnected, sensor defective • Rotational transmission shaft (ϕ6 x 30) missing
599	D	1-bin Exit Motor Error (**Japan Only**)	
		The transport lock sensor output does not change within 300 ms after the motor switches on.	• Motor overload • Motor driver defective

SC600: Data Communication

SC No.		Symptom	Possible Cause
610	D	BICU ⇔ ADF communication/timeout abnormal	
		After 1 data frame is sent to the ADF, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
611	D	BICU ⇔ ADF communication/break reception abnormal	
		During communication a break (Low) signal was received from the ADF.	• Serial line connection unstable • Harness disconnected or defective
612	D	BICU ⇔ ADF communication/command abnormal	
		A command that cannot be executed was sent from the main machine to the ADF.	• A software error, result of an abnormal procedure.
620	D	BICU ⇔ ADF communication/timeout error	
		After 1 data frame is sent to the finisher MBX, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
621	D	BICU ⇔ Finisher communication/break error	
		During communication with the finisher MBX, the BICU received a break (Low) signal from the finisher.	• Serial line connection unstable • External noise on the line
623	D	BICU ⇔ Tray 1~4 communication/timeout error	
		After 1 data frame is sent to the trays, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
624	D	BICU ⇔ Tray 1~4 communication/break reception error	
		During communication with the finisher trays, the BICU received a break (Low) signal.	• Serial line connection unstable • External noise on the line
626	D	BICU ⇔ LCT communication/timeout error	
		After 1 data frame is sent to the LCT, an ACK signal is not received within 100 ms, and is not received after 3 retries.	• Serial line connection unstable • External noise on the line
627	D	BICU ⇔ LCT communication/break reception error	
		During communication with the LCT, the BICU received a break (Low) signal.	• Serial line connection unstable • External noise on the line

SC650		NRS Modem Communication Error	
		One of the following factors could be the cause of this error: • In the User Tools, check the settings for the dial-up user name and dial up password. • Modem has been disconnected. • Modem board disconnected.	Check the following for a machine that is using Cumin (NRS modem): • An error was returned during the dialup connection • A network was detected at startup • At startup the machine detected that the NIB was disabled, or did not detect a modem board

NOTE: For more details about this SC code error, execute **SP5990** to print an SMC report so you can read the error code. The error code is not displayed on the operation panel. Here is a list of error codes:

Error	Problem	Solution
1	Failure to certify dial-up	In the User Tools, check the dial-up user and dial-up password settings
4	Illegal modem setting	Check the setting of **SP5816 160** to determine whether the setting for the AT command is correct. If this SP setting is correct, then the problem is a bug in the software.
5	Poor connection due to low power supply on the line.	The problem is on the external power supply line, so there is no corrective action on the machine.
11	Data in the NVRAM became corrupted when the network enable switch and Cumin-M were enabled at the same time.	Use **SP5985 1** and set the NIC to "0" (Disable) to disable the network board.
12	The modem board could not enable the NIB.	Replace the modem board.

SC No.		Symptom	Possible Cause
651		Illegal Remote Service Dial-up	
		An expected error occurred when Cumin-M dialed up the NRS Center.	• Software bug • No action is required because only the count is logged
670	D	Engine startup error	
		The machine engine, controlled by the BICU (Base Image Control Unit), was operating incorrectly when the machine was switched on or returned to normal operation from the energy save mode.	• Check the connections between BICU and controller • BICU defective • Controller board defective • PSU defective
672	B	Controller startup error	
		• After power on, the line between the controller and the operation panel did not open for normal operation. • After normal startup, communication with the controller stopped.	• Controller stalled • Controller installed incorrectly • Controller board defective • Operation panel harness disconnected or defective

SC700: Peripherals

SC No.		Symptom	Possible Cause
700	D	ADF original pick-up error 1	
		Pick-up roller HP sensor signal does not change after the pick-up motor has turned on.	• Pick-up roller HP sensor defective • Pick-up motor defective • Timing belt slipping, out of position • ADF main board defective
701	D	ADF bottom plate motor error	
		• Bottom plate position sensor does not detect the plate after the bottom plate lift motor switches on to lift the plate. • Bottom plate HP sensor does not detect the plate after the bottom plate motor reverses to lower the plate.	• Bottom plate position sensor defective • Bottom plate HP sensor defective • Bottom plate motor defective • ADF main board defective
720	D	Finisher transport motor error	
		The encoder pulse of the finisher transport motor does not change state (high/low) within 600 ms and does not change after 2 retries.	• Finisher transport motor defective • Transport motor harness disconnected, or defective • Finisher main board defective
721	B	Finisher jogger motor error	
		• The finisher jogger HP sensor remains de-activated for more 1,000 pulses when returning to home position. • The finisher jogger HP sensor remains activated for more than 1,000 pulses when moving away from home position.	• Jogger HP sensor defective • Jogger mechanism overload • Jogger motor defective (not rotating) • Finisher main board defective • Harness disconnected or defective
723		Feed-Out Belt Motor (B478)	**B246/D052**
		The pawl of the feed-out belt did not return to the home position during the prescribed time after 2 attempts to detect.	• Stack feed-out belt HP sensor loose, broken, defective • Feed-out belt motor defective • Finisher control board defective
724	B	Finisher staple hammer motor error (B478)	
		The staple hammer motor did not return to the home position within the prescribed time (340 ms).	• Staple hammer HP sensor loose, broken, defective • Electrical overload on the stapler drive PCB elect • Staple hammer motor defective • Finisher main board defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

725	B	Finisher stack feed-out motor error	**B140**
		The stack feed-out belt HP sensor does not activate within the prescribed number of pulses after the stack feed-out motor turns on and does not activate after 2 retries.	• Stack feed-out HP sensor defective • Harness disconnected or defective • Stack feed-out motor defective • Finisher main board defective • Motor overload
725		Exit guide motor	**B246/D052**
		The status of the exit guide sensor did not change at the prescribed time during operation of the exit guide.	• Exit guide open sensor loose, broken, defective. • Exit guide motor defective • Finisher main board defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

726	B	Finisher upper tray lift motor error	**B140**
		The paper height sensor does not activate within the prescribed time after the upper tray lift motor turns on, or the sensor remains on after the motor reverses to lower the tray.	• Upper tray paper height sensor defective • Sensor harness disconnected, defective • Tray lift motor defective • Finisher main board defective • Tray lift motor overload
726		Front shift jogger motor error (B703)	**B246/D052**
		The sides fences do not retract within the prescribed time after the shift jogger motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Shift jogger motor disconnected, defective • Shift jogger motor overloaded due to obstruction • Shift jogger HP sensor disconnected, defective

B140/B246 Duplicated Number (See last bullet on page 4.3.3 for explanation)

727	B	Finisher stapler rotation motor error	**B140**
		The stapler motor switches on but the motor does not return to the home position within the prescribed number of pulses. After 2 counts, the SC is logged as a jam.	• Stapler rotation motor defective • Poor stapler rotation motor connection • Stapler rotation sensor defective • Finisher main board defective • Rotation motor overload
727	B	Rear shift jogger motor (B703)	**B246**
		The side fences do not retract within the prescribed time after the shift jogger motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective • Motor overload • HP defective

728	**B**	Shift jogger retraction motor error (B703)	**B246/D052**
		The side fences do not retract within the prescribed time after the retraction motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective • Motor overload • HP defective
729	D	Finisher punch motor error	**B140**
		The punch HP sensor does not activate within the prescribed time after the punch motor turns on.	• Punch HP sensor defective • Sensor harness disconnected, defective • Punch motor defective • Finisher main board defective • Poor punch motor overload

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

730	B	Finisher stapler movement motor error	**B140**
		The stapler HP sensor does activate within the prescribed time after the stapler motor turns on and moves the stapler away from home position. After 2 counts, the SC is logged as a jam.	• Stapler HP sensor defective • Sensor harness disconnected, defective • Stapler movement motor defective • Finisher main board defective • Stapler movement motor overload
730	**B**	Finisher Tray 1 shift motor error	**B246/D052**
		The shift roller HP sensor of the upper tray does not activate within the prescribed time after the shift tray starts to move toward or away from the home position. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Shift tray HP sensor of the upper tray disconnected, defective • Shift tray motor of the upper tray is disconnected, defective • Shift tray motor of the upper tray overloaded due to obstruction

732	B	Finisher shift roller motor error	
		The shift roller HP sensor does not activate within the prescribed time after the shift roller motor turns on. After 2 counts, the SC is logged as a jam.	• Shift roller HP sensor defective • Sensor harness disconnected, defective • Shift roller motor defective • Finisher main board defective • Shift roller motor overload
733	D	Finisher lower tray lift motor error	
		After the lift motor switches on to lift the tray, paper height sensor 2 does not detect the top of the paper stack, or after the motor reverses to lower the stack the top of the stack remains detected (the status of paper height sensor 1 does not change). After 2 counts, the SC is logged as a jam.	• Paper height sensor 1 or 2 defective • Sensor harness disconnected, defective • Tray lift motor defective • Finisher main board defective • Tray lift motor overload

735	B	Finisher pre-stack motor error	
		• The pre-stack motor starts but does not return to the home position within 400 pulses. After 2 counts, the SC is logged as a jam. • Motor does not return to the home position within 280 pulses immediately before or after pre-stacking. After 2 counts, the SC is logged as a jam.	• Jogger HP sensor defective • Sensor harnesses disconnected, defective • Pre-stack motor defective • Finisher main board defective • Pre-stack motor overload
736	B	Finisher paper exit guide plate motor error	
		The paper exit guide plate motor starts but the paper exit guide plate HP sensor does not activate within 750 ms. After 2 counts, the SC is logged as a jam.	• Guide plate HP sensor defective • Sensor harness disconnected, defective • Paper exit guide plate motor defective • Finisher main board defective • Guide plate motor overload.
737	B	Trimmed staple waste hopper full	
		The hopper that holds the waste from staple trimming is full.	• Staple waste hopper full • Staple waste sensor defective
738	B	Finisher pressure plate motor error	
		The pressure plate motor switches on but does not return to the home position within the prescribed time after 2 counts.	• HP sensor defective • Harness disconnected, defective • Motor defective • Finisher main board defective • Motor overload
739	B	Finisher folder plate motor error	
		The folder plate motor turns on but the plate does not return to the home position within the prescribed time for 2 counts.	• Plate HP sensor defective • Harness disconnected, defective • Folder plate motor defective • Finisher main board defective • Folder plate motor overload

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

740	B	Finisher front saddle-stitch stapler motor error	**B140**
		Saddle-stitch stapler motor fails to operate within 450 ms within 2 counts..	• HP sensor defective • Harness disconnected, defective • Stapler motor defective • Finisher main board defective • Stapler motor overload
740	B	Finisher corner stapler motor error	**B246/D052**
		The stapler motor does not switch off within the prescribed time after operating. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Staple jam • Number of sheets in the stack exceeds the limit for stapling • Stapler motor disconnected, defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

741	B	Finisher rear saddle-stitch stapler motor error	**B140**
		Saddle-stitch stapler motor fails to operate within 450 ms within 2 counts..	• HP sensor defective • Harness disconnected, defective • Stapler motor defective • Finisher main board defective • Stapler motor overload
741	B	Finisher corner stapler rotation motor error	**B246/D052**
		The stapler does not return to its home position within the specified time after stapling. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Stapler rotation motor disconnected, defective • Stapler rotation motor overloaded due to obstruction • Stapler rotation HP sensor disconnected, defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

742	B	Finisher jogger side fence motor error	**B140**
		The jogger motor turns on but the side fences to not return to the home position within 340 pulses for 2 counts.	• HP sensors defective • Harness disconnected, defective • Motor defective • Finisher main board defective • Motor overload
742	B	Finisher stapler movement motor error	**B246/D052**
		The stapler HP sensor is not activated within the specified time after the stapler motor turned on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Stapler movement motor disconnected, defective • Stapler movement motor overloaded due to obstruction • Stapler HP sensor disconnected, defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

743	B	Finisher shift motor errors	**B140**
		For the optional jogger unit for the B706 finisher: During the return operation, the shift jogger motor or shift jogger fence lift motor did not return to the home position within the set number of pulses.	• HP sensor of shift jogger motor, harness, connector defective, or motor disconnected • HP sensor, harness, connector of retraction motor defective, or motor disconnected • Shift jogger motor defective • Shift jogger fence lift motor defective • Finisher main control board defective
743	B	Booklet stapler motor error 1	**B246/D052**
		The front stapler unit saddle-stitch motor does not start operation within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Front motor disconnected, defective • Front motor overloaded due to obstruction

744	B	Booklet stapler motor error 2	**B246/D052**
		The rear stapler unit saddle-stitch motor does not start operation within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Rear motor disconnected, defective • Rear motor overloaded due to obstruction

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

750	B	Cover interposer bottom plate motor error	**B140**
		• The bottom plate motor turns on to raise the bottom plate but the plate position sensor does not detect the plate within 3 s. • The bottom plate motor reverses to lower the bottom plate but the bottom plate HP sensor does not detect the plate within 3 s.	• Bottom plate position sensor defective • Bottom plate HP sensor defective • Bottom plate motor defective • Cover sheet feeder main board defective • Harnesses disconnected, defective
750	B	Finisher tray 1 (upper tray lift) motor error	**B246/D052**
		The upper tray paper height sensor does not change its status with the specified time after the tray raises or lowers. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Tray lift motor disconnected, defective • Upper tray paper height sensor disconnected, defective • Finisher main board connection to motor loose • Finisher main board defective

B140/B246 Duplicated Number (See last bullet on page 4.3.3 for explanation)

753	B	Z-Folding unit error 3	**B140**
		The HP sensor of the upper stopper motor does not go off after the stopper moved 128.7 mm.	• Upper stopper motor defective • Upper stopper motor disconnected, connector defective • Upper stopper motor HP sensor disconnected, defective • Z-Fold main control board defective
753	B	Return roller motor error	**B246/D052**
		Occurs during the operation of the lower tray pressure motor.	• Motor harness disconnected, loose, defective • Motor overloaded • Home position sensor harness disconnected, loose, defective • Home position defective

B140/B246/D052 Duplicated Number (See last bullet on page 4.3.3 for explanation)

754	D	Z-Folding unit error 4	**B140**
		2000 ms after the fan motor switched on, the lock signal did not release.	• Fan motor defective • Fan motor disconnected • Fan motor locked because of too much load • Z-Fold main control board defective
754		Z-Fold Unit Fan Motor Error	**B246/D052**
		The motor lock signal failed to release within 2 sec. after the Z-fold unit fan motor turned on.	• Fan motor connected loose, broken, defective • Fan motor defective • Fan blocked by an obstruction

755	B	Z-Folding unit error 5	**B140**
		The fold timing sensor does not operate correctly.	• Paper dust on the sensor • Sensor disconnected, defective • Reflector plate dirty, or out of position • Z-Fold main control board defective
756	B	Z-Folding unit error 6	**B140**
		The leading edge sensor does not operate correctly.	• Paper dust on the sensor • Sensor disconnected, defective • Reflector plate dirty, or out of position • Z-Fold main control board defective
757	B	Z-Folding unit error 7	**B140**
		The machine could not write to the EEPROM two times (one after the other).	• EEPROM defective, replace Z-Fold main control board
760	D	Finisher punch motor error	**B246/D052**
		The punch HP sensor is not activated within the specified time after the punch motor turned on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Punch HP sensor disconnected, defective • Punch motor disconnected, defective • Punch motor overload due to obstruction
761	B	Finisher folder plate motor error	**B246/D052**
		The folder plate moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Folder plate HP sensor disconnected, defective • Folder plate motor disconnected, defective • Folder plate motor overloaded due to obstruction.
762	B	Finisher pressure plate motor error	**B246/D052**
		Pressure plate motor operating but the plate is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Pressure plate HP sensor disconnected, defective • Pressure plate motor disconnected, defective • Pressure plate motor overloaded due to obstruction

763	D	Punch movement motor error	**B246/D052**
		Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective
764	D	Paper position sensor slide motor error	**B246/D052**
		Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective
765	B	Folding unit bottom fence lift motor	**B246/D052**
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective
766	B	Clamp roller retraction motor error	**B246/D052**
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor defective
767	B	Stack junction gate motor error	**B246/D052**
		Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	• Motor harness disconnected, loose, defective • Motor overload • Motor defective
770	B	Cover interposer tray bottom plate motor error	**B246/D052**
		• After the motor starts to raise the bottom plate, the bottom plate position sensor does not detect the plate at the specified time (3 s). • After the motor starts to lower the bottom plate, the bottom plate HP sensor does not detect the bottom plate.	• Bottom plate position sensor, disconnected, defective • Bottom plate HP sensor disconnected, defective
780	B	Z-Fold feed motor error	**B246/D052**
		The feed motor does not attain the prescribed speed within the specified time.	• Feed motor disconnected, defective • Feed motor overloaded due to obstruction • Feed motor lock
781	B	Z-Fold lower stopper motor	**B246/D052**
		The lower stopper motor does not attain the prescribed speed within the specified time.	• Lower stopper motor disconnected, defective • Lower stopper motor overloaded due to obstruction • Lower stopper HP sensor disconnected, defective
782	B	Z-Fold upper stopper motor	**B246/D052**
		The upper stopper was not detected at the home position after the motor remained on long enough to move it 128.7 mm.	• Upper stopper motor disconnected, defective • Upper stopper motor overloaded due to obstruction • Upper stopper HP sensor disconnected, defective

784		Z-fold timing unit fold timing sensor adjustment error	**B246/D052**
		The A/D (Digital/Analog) input value did not change even after the D/A (Digital/Analog) output value changed.	• Fold timing sensor connector loose, broken, defective • Fold timing sensor defective • Fold timing sensor, mylar covered with paper dust • Mylar disconnected.
785		Z-fold leading edge sensor adjustment error	**B246/D052**
		The A/D input value did not change even after the D/A output value changed.	• Leading edge sensor connector loose, broken, defective • Leading edge sensor defective • Leading edge sensor, mylar covered with paper dust • Mylar disconnected.
786		Z-fold EEPROM error	**B246/D052**
		The write operation to the Z-folding EEPROM failed after 2 attempts	• EEPROM defective
790	B	Finisher staple trimming hopper full	**B246/D052**
		The staple waste hopper is full of cut staples.	• If the hopper is full, empty the hopper • If the hopper is not full, the hopper full sensor is disconnected, defective

SC800: Overall System

SC No.		Symptom	Possible Cause
817	**B**	Monitor Error	
		This is a file detection and electronic file signature check error when the boot loader attempts to read the self-diagnostic module, system kernel, or root system files from the OS Flash ROM, or the items on the SD card in the controller slot are false or corrupted.	• OS Flash ROM data defective; change the controller firmware • SD card data defective; use another SD card

Error Codes

Code	Meaning
0x0000 0000	BIOS boot error
0x0000 0001	Primary boot start load error
0x0000 0002	Secondary boot load error (Boot3.Elf)
0x0000 0003	Self-diagnostic module error (Diag.Elf
0x0000 0004	Kernel start error (Netbsd)
0x0000 0005	Root file system file read error (Rootfs)
0xffff ffff	Other error

Example: Data in the self-diagnostic module, system kernel, or root system files are corrupted or do not exist in OS flash ROM or on the SD card
Files in the self-diagnostic module, kernel, or root file system on the SD card have been falsified or altered

- Before discarding the SD card, try to update the data on the card. If the error occurs again, the card may be defective.
- Be sure to use an SD card that contains the correct electronic signature.

SC No.		Symptom		Possible Cause
818	D	Watchdog error		
		While the system program is running, a bus hold or interrupt program goes into an endless loop, preventing any other programs from executing.		• System program defective; switch off/on, or change the controller firmware if the problem cannot be solved • Controller board defective • Controller option malfunction
819	D	Fatal kernel error		
		Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.		• System program defective • Controller board defective • Optional board defective • Replace controller firmware
		0x696e	init died	
		0x766d	vm_pageout: VM is full	
		4361	Cache Error	
		Other		

NOTE: For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel.

SC No.		Symptom		Possible Cause
821	D	Self-diagnostic error 2: ASIC		
		The ASIC provides the central point for the control of bus arbitration for CPU access, for option bus and SDRAM access, for SDRAM refresh, and for management of the internal bus gate.		
		0B00	Error code 0xffff ffff is returned when the register Write & Verify check is executed on the ASIC mounted on the controller board. The ASIC controls the ROM and buses for other devices.	• ASIC (controller board defective)
		0B06	ASIC not detected	• ASIC defective • Poor connection between North Bridge and PCI I/F • Replace controller board
		0B10	Failed to initialize or could not read connection bus. Data in SHM register incorrect.	• Connection bus defective • SHM defective • Replace controller board

NOTE: For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel.

SC No.		Symptom		Possible Cause
822	B	Self-diagnostic error 3: HDD		
		3003	Check performed when HDD is installed: • HDD device busy for over 31 s. • After a diagnostic command is set for Sthe HDD, but the device remains busy for over 6 s. A diagnostic command is issued to the HDD device but the result is an erro	• HDD defective • HDD harness disconnected, defective • Controller board defective
		3004	No response to the self-diagnostic command from the ASIC to the HDDs	• HDD defective
		3013	Mandolin does not respond, the HDD device remains BUSY for more than 31 s, or the BUSY signal does not drop within 6 s after the diagnostic command is issued to the HDDs.	• HDD defective • HDD connector loose or defective • Controller defective

SC No.		Symptom		Possible Cause
		3014	Error returned from HDD in response to the self-diagnostic command, Mandolin could not be located due to a read/write error at the HDD register.	• HDD defective
824	D	Self-diagnostic error 4: NVRAM		
		NVRAM device does not exist, NVRAM device is damaged, NVRAM socket damaged		• NVRAM defective • Controller board defective • NVRAM backup battery exhausted • NVRAM socket damaged
826	D	Self-diagnostic error 6: NVRAM (option NVRAM)		
		1501	The difference between the 1 s measured for RTC in the NVRAM and the 1 s timeout of the CPU is out of range, or the NVRAM is not detected.	• NVRAM defective • NVRAM installed incorrectly
		15FE	Backup battery error. Battery is exhausted or not within rated specification.	• The battery is attached permanently to the controller board. Replace the controller board.
828	D	Self-diagnostic error 7: ROM		
		• Measuring the CRC for the boot monitor and operating system program results in an error. • A check of the CRC value for ROMFS of the entire ROM area results in an error.		• Software defective • Controller board defective • ROM defective

NOTE: For more details about this SC 833, SC834 error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel. The additional error codes (0F30, 0F31, etc. are listed in the SMC report.

SC No.		Symptom	Possible Cause
833	D	Self-diagnostic error 8: Engine I/F ASIC	
0F30 0F31		ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.	• ASCI (Mandolin) for system control is defective • Interface between North Bridge and AGPI is defective • Replace the mother board
0F41		The read/write check done for resident RAM on the mother board could not be done correctly.	• Memory device defective • Replace the mother board
50B1		Could not initialize or read the bus connection.	• Bus connection defective, loose • SSCG defective • Replace the mother board
50B2		Value of the SSCG register is incorrect.	• Bus connection loose, defective • SSCG defective • Replace the mother board
834	D	Self-diagnostic error 9: Optional Memory RAM DIMM	
5101		The write/verify check for the optional RAM chip on the engine mother board gave an error.	• Controller defective • Mother board defective
850	B	Net I/F error	

SC No.		Symptom	Possible Cause
		• Duplicate IP addresses. • Illegal IP address. • Driver unstable and cannot be used on the network.	• IP address setting incorrect • NIB (PHY) board defective • Controller board defective
851	B	IEEE 1394 I/F error	
		Driver setting incorrect and cannot be used by the 1394 I/F.	• NIB (PHY), LINK module defective; change the Interface Board • Controller board defective
853	B	Wireless LAN Error 1	
		During machine start-up, the machine can get access to the board that holds the wireless LAN, but not to the wireless LAN card (802.11b or Bluetooth).	• Wireless LAN card missing (was removed)
854	B	Wireless LAN Error 2	
		During machine operation, the machine can get access to the board that holds the wireless LAN, but not to the wireless LAN card (802.11b or Bluetooth).	• Wireless LAN card missing (was removed)
855	B	Wireless LAN error 3	
		An error was detected on the wireless LAN card (802.11b or Bluetooth).	• Wireless LAN card defective • Wireless LAN card connection incorrect
856	B	Wireless LAN error 4	
		An error was detected on the wireless LAN card (802.11b or Bluetooth).	• Wireless LAN card defective • PCI connector (to the mother board) loose
857	B	USB I/F Error	
		The USB driver is not stable and caused an error.	• Bad USB card connection • Replace the controller board
860	B	HDD startup error at main power on	
		• HDD is connected but a driver error is detected. • The driver does not respond with the status of the HDD within 30 s.	• HDD is not initialized • Level data is corrupted • HDD is defective
861	D	HDD re-try failure	
		At power on with the HDD detected, power supply to the HDD is interrupted, after the HDD is awakened from the sleep mode, the HDD is not ready within 30 s.	• Harness between HDD and board disconnected, defective • HDD power connector disconnected • HDD defective • Controller board defective

SC No.		Symptom	Possible Cause
863	D	HDD data read failure	
		The data written to the HDD cannot be read normally, due to bad sectors generated during operation.	• HDD defective **NOTE**: If the bad sectors are generated at the image partition, the bad sector information is written to NVRAM, and the next time the HDD is accessed, these bad sectors will not be accessed for read/write operation.
864	D	HDD data CRC error	
		During HDD operation, the HDD cannot respond to an CRC error query. Data transfer did not execute normally while data was being written to the HDD.	• HDD defective
865	D	HDD access error	
		HDD responded to an error during operation for a condition other than those for SC863, 864.	• HDD defective.
866	B	SC card error 1: Confirmation	
		The machine detects an electronic license error in the application on the SD card in the controller slot immediately after the machine is turned on. The program on the SD card contains electronic confirmation license data. If the program does not contain this license data, or if the result of the check shows that the license data in the program on the SD card is incorrect, then the checked program cannot execute and this SC code is displayed.	• Program missing from the SD card • Download the correct program for the machine to the SD card
867	D	SD card error 2: SD card removed	
		The SD card in the boot slot when the machine was turned on was removed while the machine was on.	• Insert the SD card, then turn the machine off and on.
868	D	SD card error 3: SC card access	
		An error occurred while an SD card was used.	• SD card not inserted correctly • SD card defective • Controller board defective **NOTE**: If you want to try to reformat the SC card, use SD Formatter Ver 1.1.

870	B	Address book data error	
		Address book data on the hard disk was detected as abnormal when it was accessed from either the operation panel or the network. The address book data cannot be read from the HDD or SD card where it is stored, or the data read from the media is defective.	• Software defective. Turn the machine off/on. If this is not the solution for the problem, then replace the controller firmware. • HDD defective.
		More Details • Do SP5846 050 (UCS Settings – Initialize all Directory Info.) to reset all address book data. • Reset the user information with SP5832 006 (HDD Formatting– User Information). • Replace the HDDs. • Boot the machine from the SD card.	
873	B	HDD mail send data error	
		An error was detected on the HDD immediately after the machine was turned on, or power was turned off while the machine used the HDD.	• Do SP5832-007 (Format HDD – Mail TX Data) to initialize the HDD. • Replace the HDD
874	D	Delete All error 1: HDD	
		A data error was detected for the HDD/NVRAM after the Delete All option was used. **NOTE**: The source of this error is the Data Overwrite Security Unit B660 running from an SD card.	• Turn the main switch off/on and try the operation again. • Install the Data Overwrite Security Unit again. For more, see section "1. Installation". • HDD defective
875	D	Delete All error 2: Data area	
		An error occurred while the machine deleted data from the HDD. **NOTE**: The source of this error is the Data Overwrite Security Unit B660 running from an SD card.	• Turn the main switch off/on and try the operation again.
⇒ 876	D	Log Data Error ☛ SC876 More Information on page 4-75	
		The log data has been corrupted at power on, while the machine was operating, or when the machine was powered off during a print or copy cycle. The machine should never be switched off while it is printing or copying.	
876-1		Log data file was corrupted at power on or while the machine was operating.	• Format the HDD with SP5832-004.
876-2		The log was set for encryption without the encryption module installed: • At power on • While the machine was operating • When the log encryption setting was changed.	• Install or replace and set the encryption module. • Enable the log encryption setting.
876-3		At power on the log encryption key was disabled, causing an NVRAM malfunction.	• Format the disk with SP5832-004.

… continued

876-4	D	At power on the machine attempted log data encryption with the log encryption setting disabled (NVRAM malfunction). -or- At power on log encryption was attempted with the log encryption setting disabled (NVRAM malfunction).	• Format the disk with SP5832-004.
876-5		Error occurred at power on. Only the NVRAM was replaced with an NVRAM from another machine. -or- Only the HDD was replaced with an HDD unit from another machine.	• Replace NVRAM with original NVRAM. • Replace HDD with original HDD. • If the error persists, format the HDD with SP5832-004.
876-99		Cause unknown. The error occurred at power on or while the machine was operating.	• Format the HDD with SP5832-004.
880	D	File Format Converter (MLB) error	
		A request to get access to the MLB was not answered within the specified time.	• MLB defective, replace the MLB

SC900: Miscellaneous

SC No.		Symptom	Possible Cause
900	D	Electrical total counter error	**B140**
		The total counter contains something that is not a number.	• NVRAM incorrect type • NVRAM defective • NVRAM data scrambled • Unexpected error from external source
901	D	Mechanical total counter error	
		The mechanical counter is not connected.	• Mechanical total counter defective • Mechanical total counter connector not connected
910	**D**	External Controller Error 1	**B140/B246**
911	**D**	External Controller Error 2	
912	**D**	External Controller Error 3	
913	**D**	External Controller Error 4	
914	**D**	External Controller Error 5	
		The external controller alerted the machine about an error.	• Please refer to the instructions for the external controller.
919	**B**	External Controller Error 6 **B140/B246**	
		While EAC (External Application Converter), the conversion module, was operating normally, the receipt of a power line interrupt signal from the FLUTE serial driver was detected, or BREAK signal from the other station was detected.	• Power outage at the EFI controller • EFI controller was rebooted • Connection to EFI controller loose
920	B	Printer error 1	**B140**
		An internal application error was detected and operation cannot continue.	• Software defective; turn the machine off/on, or change the controller firmware • Insufficient memory
921	B	Printer error 2	**B140**
		When the application started, the necessary font was not on the SD card.	• Font not on the SC card

Trouble-shooting

SC No.		Symptom	Possible Cause
925	B	NetFile Function Error	
		• The NetFile file management on the HDD cannot be used, or a NetFile management file is corrupted and operation cannot continue. • The HDDs are defective and they cannot be debugged or partitioned, so the Scan Router functions (delivery of received faxes, document capture, etc.), Fabric services, and other network functions cannot be used.(HDD status codes displayed on the debug console are described below.)	• HDD defective • Power supply to machine cut occurred while writing data to HDD • Software error • Please refer to the detailed descriptions below for recovery procedures.

HDD Status Codes Displayed on Debug Console

Display	Meaning
(-1)	HDD not connected
(-2)	HDD not ready
(-3)	No level
(-4)	Partition type incorrect
(-5)	Error returned during level read or check
(-6)	Error returned during level read or check
(-7)	“filesystem” repair failed
(-8)	“filesystem” mount failed
(-9)	Drive does not answer command
(-10)	Internal kernel error
(-11)	Size of drive is too small
(-12)	Specified partition does not exist
(-13)	Device file does not exist

Recovery Procedure 1

If the machine returns SC codes for HDD errors (SC860 ~ SC865), please follow the recovery procedures described for these SC codes.

Recovery Procedure 2

If the machine does not return one of the five HDD errors (SC860 ~ SC865), cycle the machine off and on. If this does not solve the problem, then initialize the NetFile partition on the HDD with **SP5832 011** (HDD Formatting – Ridoc I/F).

NetFiles: Jobs printed from the document server using a PC and DeskTopBinder

Before initializing the NetFile partition on the HDD please inform the client that:

1. Received faxes on the delivery server will be lost
2. All captured documents will be lost
3. DeskTopBinder/Print Job Manager/Desk Top Editor job history will be cleared
4. Documents stored on the document server, included scanned documents, will not be lost.
5. The first time the network accesses the machine, the management information must be reconfigured (this will require a significant amount of time).

Before initializing the Netfile partition with **SP5823 011**, do the following:

6. Enter the User Tools mode and execute "Delivery Settings" to print all received fax documents scheduled for delivery and delete them.
7. In the User Tools mode, execute Document Management> Batch Delete Transfer Documents.
8. Execute **SP5832 011** then cycle the machine off and on.

Recovery Procedure 3

If "Procedure 2" does not solve the problem, execute **SP5832 001** (HDD Formatting – All), then cycle the machine off and on.

Executing **SP5832 001** erases all document and address book data stored on the hard disks. Be sure to consult with the customer before executing this SP code.

Recovery Procedure 4

If "Recovery Procedures 1 to 3" fail to correct the problem, replace the HDD.

SC No.		Symptom	Possible Cause
953	D	Scanner image setting error	
		The settings required for image processing using the scanner are not sent from the IPU.	• Software defective
954	D	Printer image setting error	
		The settings required for image processing using the printer controller are not sent from the IPU.	• Software defective
955	D	Memory setting error	
		The settings that are required for image processing using the memory are not sent from the IPU.	• Software defective
964	D	Printer ready error	
		The print ready signal is not generated for more than 17 seconds after the IPU received the print start signal.	• Software defective
984	D	Print image data transfer error	
		After a data transfer begins from the controller to the engine via the PCI bus, the transfer does not end within 15 s.	• Controller (SIMAC) board defective • BICU defective • BICU ⇔ controller disconnected
985	D	Scanned image data transmission error	
		After a data transfer begins from the engine to the controller via the PCI bus, the transfer does not end within 3 s.	• Controller (SIMAC) board defective • BICU defective • BICU ⇔controller disconnected
986	D	Software error 1	
		The write parameter received by the write module at the beginning of the setting table is NULL.	• Controller (SIMAC) board defective • BICU defective • BICU ⇔controller disconnected

SC No.		Symptom	Possible Cause
990	D	Software error 2	**B140**
		The software performs an unexpected function and the program cannot continue.	• Software defective, re-boot[*1]
991	C	Software error 3	**B140**
		The software performs an unexpected function and the program cannot continue. However, unlike SC990, recovery processing allows the program to continue.	• Software defective, re-boot[*1]

[*1]: In order to get more details about SC990 and SC991:

1) Execute SP7403 or print an SMC Report (SP5990) to read the history of the 10 most recent logged errors.
2) If you press the zero key on the operation panel with the SP selection menu displayed, you will see detailed information about the recently logged SC990 or SC991, including the software file name, line number, and so on. 1) is the recommended method, because another SC could write over the information for the previous SC.

SC No.		Symptom	Possible Cause
992	D	Software error 4: Undefined	**B140**
		An error not controlled by the system occurred (the error does not come under any other SC code).	• Software defective • Turn the machine power OFF/ON. The machine cannot be used until this error is cleared.
SC994	**C**	Operation Panel Management Records Exceeded	**B246**
		An error occurred because the number of records exceeded the limit for images managed in the service layer of the firmware. This can occur if there if there are too many application screens open on the operation panel.	• No action required because this SC does not interfere with operation of the machine.
997	B	Cannot select application function	**B140**
		An application does not start after the user pushed the correct key on the operation panel.	• Software bug • A RAM or DIMM option necessary for the application is not installed or not installed correctly.
998	D	Application cannot start	**B140**
		Register processing does not operate for an application within 60 s after the machine power is turned on. Applications do not start correctly, all end abnormally.	• Software bug • A RAM or DIMM option necessary for the application is not installed or not installed correctly.

SC876 More Information

⇒ If the error persists after doing the procedure described in the table above, do this procedure.

1. Switch the machine OFF, remove the HDD, and then switch the machine ON.
2. Do SP5801-019, then switch the machine OFF.
3. Install the HDD again and switch the machine ON.
4. Do SP5832-004.
5. Cycle the machine OFF/ON.
6. Do SP9730-002 and set to "1" (ON).
7. Do SP9730-003 and set to "1" (ON).
8. Do SP9730-004 and set to "1" (ON).
9. Cycle the machine OFF/ON.

4.3.4 JAM CODES

Here are lists of SC codes that are printed in the SMC report; they do not appear on the operation panel display.

Main Unit: Paper Jam Errors

No.	Check-In Failure (Paper Does Not Arrive)	No.	Check-Out Failure (Paper Remains)
1	Initial Jam (Power On)		
3	Tray 1 feed sensor	53	Tray 1 feed sensor
4	Tray 2 feed sensor	54	Tray 2 feed sensor
5	Tray 3 feed sensor	55	Tray 3 feed sensor
6	Tray 4 feed sensor (**Japan Only**)	56	Tray 4 feed sensor (**Japan Only**)
7	LCT feed sensor	57	LCT feed sensor
8	Transport sensor 1	58	Transport sensor 1
9	Transport sensor 2	59	Transport sensor 2
10	Transport sensor 3	60	Transport sensor 3
11	Transport sensor 4 (**Japan Only)**	61	Transport sensor 4 (**Japan Only)**
12	Relay sensor	62	Relay sensor
13	Registration sensor	63	Registration sensor
14	Fusing exit sensor		
15	Exit unit entrance sensor		
16	Exit unit	66	Exit unit
19	Exit unit entrance sensor	69	Exit unit entrance sensor
20	Duplex transport sensor 1		
21	Duplex transport sensor 2	71	Duplex transport sensor 2
22	Duplex transport sensor 3	72	Duplex transport sensor 3
23	Duplex inverter sensor	73	Duplex inverter sensor
24	1-Bin tray (**Japan Only**)	74	1-Bin tray (**Japan Only**)
34	Bypass paper end sensor		

Finisher B469 Jam Codes

No.	Location	Related SC Code
101	Entrance Sensor	
102	Proof Tray Exit Sensor	
103	Exit Sensor	
104	Staple Entrance Sensor	
105	Exit Sensor after jogging	
106	Stapler Unit 1	
109	Shift Motor	SC733
110	Jogger Fence Motor	SC722
111	Shift Roller or Guide Plate Motor	SC732, SC736
112	Stapler Movement or Stapler Rotation Motor	SC727, SC730
113	Stapler Unit 2	SC724
115	Feed Out Belt Motor	SC725
116	Punch Hole Motor	SC729

Finisher B468/B674 Jam Codes

No.	Location	Related SC Code
121	Entrance Sensor	
122	Proof Tray Exit Sensor	
123	Exit Sensor	
124	Staple Entrance Sensor	
125	Exit Sensor after jogging	
126	Stapler Unit 1	
127	Saddle Stitch Stapler Unit	
128	Saddle Stitch Stapler Unit	
129	Shift Motor	SC733, SC726
130	Jogger Fence Motor	SC722
131	Shift Roller or Guide Plate Motor	SC732, SC736
132	Stapler Movement or Stapler Rotation Motor	SC727, SC730
133	Stapler Unit 2	SC724, SC728, SC740, SC741
134	Folder Plate Motor	SC739
135	Feed Out Belt Motor	SC725
136	Punch Hole Motor	SC729

Finisher B478/B706 Jam Codes

No.	Location	Related SC Code
141	Entrance Sensor	
142	Proof Tray Exit Sensor	
143	Exit Sensor	
144	Staple Entrance Sensor	
145	Exit Sensor after jogging	
148	Upper Transport Motor	
149	Shift Motor	SC733, SC726
150	Jogger Fence Motor	SC722
151	Shift Roller or Guide Plate Motor	SC732, SC736
153	Stapler Unit	SC724, SC738, SC740, SC741
155	Feed Out Belt Motor	SC725
156	Punch Hole Motor	SC729
158	Z-Fold Jogger Motor (**B706 Only**)	

Mailbox B471 Jam Codes

No.	Location	Related SC Code
161	Vertical Transport Sensor 1 (CN201)	---
162	Vertical Transport Sensor 2 (CN204)	---
163	Vertical Transport Sensor 3 (CN209)	---
164	Vertical Transport Sensor 4 (CN2014)	---
165	Vertical Transport Sensor 5 (CN2019)	---

Cover Interposer Tray B470 Jam Codes

No.	Location	Related SC Code
166	Feed or Pull-out Sensor	---
167	Exit Sensor	---
168	Bottom Plate Position Sensor	SC750

Z-Folding Unit B660 Jam Codes

No.	Location	Related SC Code
169	Paper Feed Sensor: Paper Late	---
170	Paper Feed Sensor: Paper Remains	---
171	Fold Timing Sensor: Paper Late	---
172	Fold Timing Sensor: Paper Remains	---
173	Leading Edge Exit Sensor: Paper Late	---
174	Leading Edge Exit Sensor: Paper Remains	---
175	Upper Stopper Path Sensor: Paper Late	---
176	Upper Stopper Path Sensor: Paper Remains	---
177	Lower Exit Sensor: Paper Late	---
178	Lower Exit Sensor: Paper Remains	---
181	Upper Exit Sensor: Paper Late	---
182	Upper Exit Sensor: Paper Remains	---
183	Paper Fold Motor Lock	---
184	Lower Stopper Motor Lock	---
185	Upper Stopper Motor Lock	---

4.3.5 ADDITIONAL SC CODES PRINTED IN SMC REPORT

These codes are also used in the SMC report.

Codes that have the same number in this series are identified by an additional 4-digit hexadecimal number.

SC No.		Symptom	Possible Cause
820	0001	TLB conversion (store) exception error	Unexpected error in CPU device: • Controller board defective • Boot monitor or self-diagnostic program corrupted
820	0002	TLB miss (load) exception error	
820	0003	TLB miss (store) exception error	
820	0004	Read address exception error	
820	0005	Write address exception error	
820	0006	Command bus exception error	
820	0007	Data bus exception error	
820	0008	System call exception error	
820	0009	Break exception error	
820	000A	Illegal command exception error	
820	000B	Potential sensor exception error	
820	000C	Overflow exception error	
820	000D	UTLB miss exception error	
820	0010	Allocation 0 error	
820	0011	Allocation 1 error	
820	0012	Allocation 2 error	
820	0013	Allocation 3 error	
820	0014	Allocation 4 error	
820	0015	Allocation 5 error	
820	00FF	Non-initialization allocation error	• CPU defective • Local bus defective • Controller board defective
820	0601	Read address exception error	• CPU device error • Controller board defective
820	0602	Write address exception error	
820	0605	System call exception error	
820	0606	Break point exception error	
820	0607	Illegal command exception error	
820	060A	Allocation 0 mask exception error	• CPU device error • ASIC device error • Controller board defective
820	060B	Allocation 1 mask exception error	
820	060C	Allocation 2 mask exception error	
820	060D	Allocation 3 mask exception error	
820	060E	Allocation 4 mask exception error	
820	0610	CPU timer 2 allocation set error	• CPU device error • Controller board defective
820	0612	ASIC allocation error	• ASIC device error • Controller board defective • Peripheral device defective
820	06FF	CPU master clock error	• CPU device error • Error in CPU initialization data (ASIC error) • Controller board defective

SC No.		Symptom	Possible Cause
820	0702	Command cache error	• CPU cache defective • Controller board defective • Memory error (insufficient speed)
820	0709	Data cache error	• CPU device error • Boot mode setting for CPU error • Controller defective • Insufficient memory
820	070A	Data cache clear error	
820	0801	TLB virtual address error	• CPU device defective (controller board defective)
820	0804	TLB global error	
820	0807	UTLB miss error	
820	0808	TLB read miss error	
820	0809	TLB write miss error	
820	080A	TLB mode file error	
820	4002	Single-precision calculation error	• CPU error (controller board defective)
820	4003	Double-precision calculation error	
820	4004	Exception error	
820	4005	Exception mask error	
822	3003	HDD timeout	• HDD defective • HDD connector disconnected, defective • ASIC device error (controller board defective)
822	3004	Self-diagnostic command error	• HDD defective
823	6101	MAC address SUM error	• NIB (PHY) board defective • Controller board defective
823	6104	PHY chip ID illegal	
823	6105	PHY loopback error	
824	1401	NVRAM verify error	• NVRAM defective
826	1501	Clock error	• Optional NVRAM defective
826	15FF	RTC non-detection error	• Incompatible NVRAM installed • NVRAM battery defective
826	0201	Resident memory verify error	• Memory on controller board defective • RAM DIMM defective
828	0101	Boost trap code (CODE) error	• Software storage error (re-install software) • Controller board defective
828	0104	ROM FS error	• ROM device error
828	0105	Forgery prevention error	• Forgery prevention chip defective • Forgery prevention chip error • Replace the controller, ROM, or RAM DIMM
829	0301	Option memory 0 verify error	• Controller board internal memory error • RAM DIMM defective
829	0302	Option memory 0 configuration information error	
835	1102	Verify error	• Loopback connector error (controller board defective)
835	110C	DMA verify error	• Loopback connector error • Controller board defective
835	1120	Loopback connector non-detection	• Loopback connector not set • Loopback connector error • Controller board defective
836	1601	Font ROM 0 error	
837	1602	Font ROM 1 error	
838	2701	Verify error	

SC No.		Symptom	Possible Cause
853	D	IEEE802 11b card startup error	
		Not used.	
854	D	IEEE802 11b card access error	
		Not used.	
855	D	IEEE802 11b card error	
		Not used.	
856	D	IEEE802 11b card connection board error	
		Not used.	
870	B	Address book data error	
		The address book in the hard disk is accessed. → An error is detected in the address book data; address book data is not read; or data is not written into the address book. NOTE: To recover from the error, do any of the following countermeasures: Format the address book by using SP5-832-008 (all data in the address book–including the user codes and counters–is initialized) Initialize the user data by using SP5-832-006 and -007 (the user codes and counters are recovered when the main switch is turned on). Replace the hard disk (the user codes and counters are recovered when the main switch is turned on).	• Data corruption • Defective hard disk • Defective software
920	D	Printer error	
		The printer program cannot be continued.	• Defective hardware • Data corruption • Defective software
925	D	Net file error	
		The management file for net files is corrupted; net files are not normally read. Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software	• Defective hardware • Data corruption • Defective software
992	C	Other system SCs	
		The controller received an unknown SC code from the engine.	• Contact your product specialist.
993	D	Network error	
		The ASIC program of GW controller cannot be continued.	• Defective ASIC • Defective GW controller

4.4 OTHER PROBLEMS (B064/B140/B246/D052 SERIES)

4.4.1 BLOWN FUSE CONDITIONS

Fuse	Rating		Symptom at Power On
	115 V	210~230V	
FU1	2A/125V	6.3A/250V	Anti-condensation heater does not operate.
FU101	12A/125V	6.3A/250V	No response.
FU103	6.3A/125V	6.3A/250V	SC510 is displayed.
FU104	6.3A/125V	6.3A/250V	Nothing displayed on LCD.
FU105	6.3A/125V	6.3A/250V	“Door Open” is displayed.
FU106	6.3A/125V	6.3A/250V	ADF does not operate.
FU107	6.3A/125V	6.3A/250V	SC121 is displayed.
FU108	6.3A/125V	6.3A/250V	Finisher does not work.
FU109	6.3A/125V	6.3A/250V	“Door Open” is displayed.
FU110	6.3A/125V	6.3A/250V	SC510 is displayed.
FU111	6.3A/125V	6.3A/250V	Nothing is displayed on LCD.

4.4.2 COMMON PROBLEMS

Problem	Check	Inspect, Clean, Replace
Dirty Copies	Fusing Unit	Pressure roller
Jam – Fusing Unit	Fusing Unit	Hot roller
Jam – Fusing Unit	Fusing Unit	Hot roller strippers
Jam – Original	ADF	Pick-up, paper feed, separation rollers
Lines (black or white)	Around the Drum	Cleaning blade, cleaning brush
Misfeed – Fusing Unit	Fusing Unit	Hot roller
Offset	Fusing Unit	Hot roller
Poor separation	Transfer Belt Unit	Transfer belt, transfer belt cleaning blade
SC300 ~ SC306	Around the Drum	Charge corona wire, charge corona grid, charge corona wire cleaner.
Skew – Original	ADF	Pick-up, paper feed, separation rollers
Toner on transfer belt	Transfer Belt Unit	Transfer belt, transfer belt cleaning blade
Wrinkling	Fusing Unit	Pressure roller

4.4.3 FREQUENT PAPER JAMS

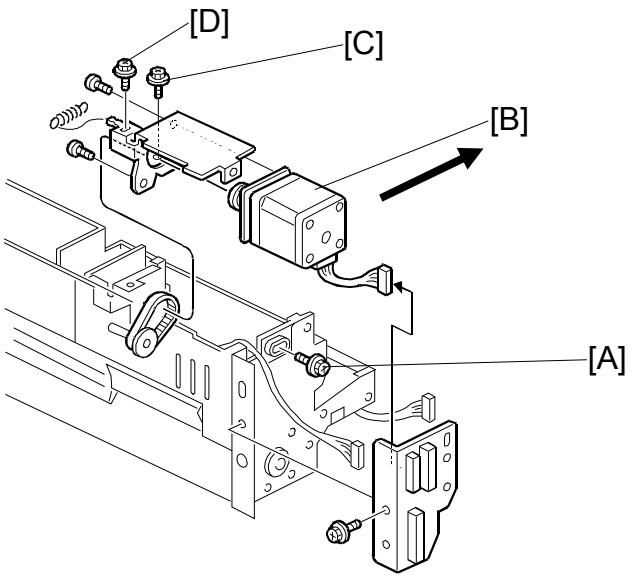
If there are frequent paper jams, check SP7504 in section “5. Service Tables”. If these locations have frequent jams, do the procedures described below.

Symptom 1: Jams when paper is fed from a by-pass tray that is not used frequently

If the customer does not use the by-pass tray frequently, the rollers can become worn.

1. Visually check the by-pass tray pick-up, feed, and separation rollers.
2. If these rollers are paler than the rollers in paper trays that are more frequently used, replace the rollers in the by-pass tray.
   NOTE: For more details, see 3. Replacement and Adjustment, “3.11.12 By-Pass Tray Rollers.”

Symptom 2: Jams with noise from the paper feed unit



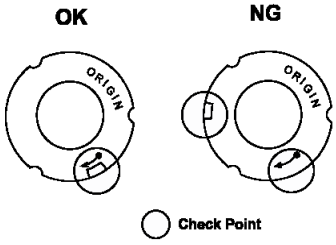
1. Remove the paper feed unit. For details, see 3. Replace and Adjustment, “3.11.8 Paper Feed Unit.”
2. Loosen screw [A].
3. Push the motor [B] toward the tray side, then tighten the screw [A].
4. Loosen screws [C] and [D], let the spring move the unit to the correct position, then tighten the screws.

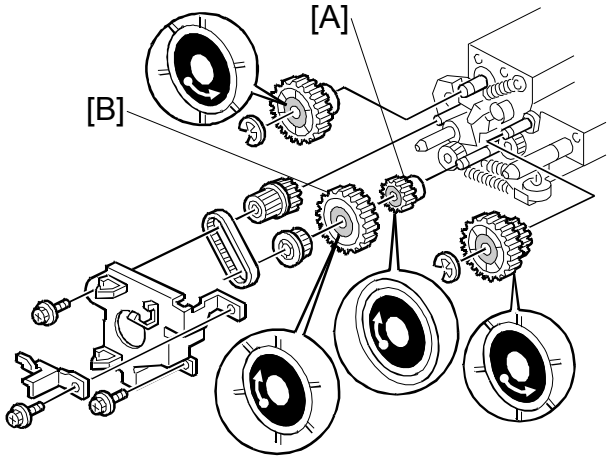
Symptom 3: Other

1. If none of the two symptoms 1 or 2 applies, do this procedure.
2. Use SP7504 to check the jam counts and find which SPs have high counts.
3. From the table and illustration below, find which gears must be replaced.
   Example: For tray 1, if SP7504-012 is high, replace gear A, or if SP7504-008 is high, replace gear B.

Tray	SP7504 12	SP7504 8	SP7504 9	SP7504 10	SP7504 11
Tray 1	Gear [A]	Gear [B]			
Tray 2		Gear [A]	Gear [B]		
Tray 3			Gear [A]	Gear [B]	
Tray 4				Gear [A]	Gear [B]

4. Clean the shafts and replace the necessary gears.
5. Replace a gear if its cutout and arrow are not in the same position.





6. When you replace Gear [A] or Gear [B], be sure to put the metal face on the outer side, and the arrow must be in view.
7. If a replacement gear is not available, do this as a temporary procedure:
   1) Remove the paper feed unit.
   2) Remove the gear.
   3) Clean the gear shaft and inside the gear.
   4) Attach the gear.
   5) Install the paper feed unit.